

Terrence Mason

Department of Math, Statistics, and Computer Science
University of Wisconsin - Stout

237F Harvey Hall, Menomonie, WI 54751
Phone: 715-232-2481; Fax: 715-232-2573
E-mail: mason@uwstout.edu
Web: <http://faculty.uwstout.edu/mason/>

EDUCATIONAL HISTORY

- Ph.D.** **Computer Science, University of Iowa, May 2006**
Dissertation: "Schema-Free SQL: Providing freedom from the schema knowledge required to query in SQL."
- M.S.** **Computer Science, University of Iowa, December 2005**
Concentration: Database Systems
- B.A.** **Computer Science, University of Iowa, December 2001**
Dean's List Each Semester
- B.S.** **Chemical Engineering, Iowa State University, December 1989**
Engineer-In-Training Certification 1989

TEACHING EXPERIENCE AND AWARDS

Assistant Professor, University of Wisconsin – Stout (2006 – Present)

- Spring 2009:** CS:145 Computer Science II
 CS:342 Survey of Programming Languages
 CS:443 Database Systems
 CS:458 Advanced Software Engineering
- Fall 2008:** CS:244 Data Structures, Two sections
 CS:248 Web and Internet Programming
 CS:448 Software Engineering
- Spring 2008:** CS:145 Computer Science II, Two Sections
 CS:442 Systems Programming
 CS:443 Database Systems

TEACHING EXPERIENCE AND AWARDS (CONTINUED)

Spring 2008 continued:

Independent Study Software Development (8 students) - create Java object-oriented sprites package to be used in graphical CS1 and CS2 projects. Build foundation classes for side-scrolling game design and development.

Independent Study Bioinformatics (Two students, one directly) - Advise along with Michael Pickart in Biology the development of a website for genomic data.

Fall 2007: CS:244 Data Structures, two sections
CS:248 Web and Internet Programming
Independent Study, develop code for Lesson Study Grant

Spring 2007: CS:145 Computer Science II, Two Sections, New Preparation
CS:442 Systems Programming, New Preparation
CS:443 Database Systems, New Preparation
Independent Study, code for Lesson Study Grant

Fall 2006: CS:244 Data Structures, Two Sections, New Preparation
CS:248 Web and Internet Programming, New Preparation

SURVEY OF STUDENT REACTION TO COURSES AND INSTRUCTION

Student evaluations are on a scale from 1 (Excellent) to 5 (extremely poor) for the listed items. Median values shown.

| Semester Year | Course Name | Instructor's knowledge (19) | Overall rating of instructor (20) |
|---------------|-------------------------------------|-----------------------------|-----------------------------------|
| Fall 2008 | CS-448 Software Engineering | 1.217 | 1.190 |
| Fall 2008 | CS-244:01 Data Structures | 1.353 | 1.118 |
| Fall 2008 | CS-244:02 Data Structures | 1.053 | 1.105 |
| Fall 2008 | CS-248 Web and Internet Programming | 1.143 | 1.071 |
| Spring 2008 | CS-145:003 Computer Science II | 1.211 | 1.33 |
| Spring 2008 | CS-442 System Programming | 1.500 | 1.250 |
| Spring 2008 | CS-443 Database Systems | 1.150 | 1.050 |
| Spring 2008 | CS-145:01 Computer Science II | 1.000 | 1.000 |
| Fall 2007 | CS-244:01 Data Structures | 1.130 | 1.125 |
| Fall 2007 | CS-244:02 Data Structures | 1.182 | 1.238 |
| Fall 2007 | CS-248 Web and Internet Programming | 1.353 | 1.294 |
| Spring 2007 | CS-145:02 Computer Science II | 1.375 | 1.125 |
| Spring 2007 | CS-442 System Programming | 1.333 | 1.333 |
| Spring 2007 | CS-443 Database Systems | 1.133 | 1.357 |
| Spring 2007 | CS-145:01 Computer Science II | 1.231 | 1.333 |
| Fall 2006 | CS-244:01 Data Structures | 1.294 | 1.438 |
| Fall 2006 | CS-244:02 Data Structures | 1.286 | 1.143 |
| Fall 2006 | CS-248 Web and Internet Programming | 1.357 | 1.071 |

Selected Student Comments from Teaching Evaluations

- “Dr. Mason is one of the best instructors I have had.”
- “He is a great asset to the AMCS department.”
- “Great teacher, made class fun and interesting and helped to really make you understand the material”
- “(Dr. Mason) made the learning environment more interesting, exciting, and made me ready to learn. I also wanted to attend class every day.”
- “Terry was good at communicating ideas and getting us started on projects.”
- “Good grading system and very enthusiastic about course material!”

University of Iowa, Department of Computer Science

Co-Lecturer 22C:144 Introduction to Databases, Fall 2005, 8 lectures
Course offered using streaming video over internet for remote students including students at Rockwell Collins Corporation

Teaching Assistant 22C:144 Introduction to Databases (Summer 2003, Fall 2004 and 2005)
22C:244 Database System Implementation (Spring 2005)
22C:016 Introduction to Computer Science (*Fall 2002 and 2003)
22C:044 Introduction to Algorithms (Summer 2002)
22C:040 Computer Organization and Architecture (Summer 2002)

ASSESSING THE CLASSROOM ENVIRONMENT (ACE) RESULTS

Note: Student evaluations are on scale from 1 (strongly disagree) to 6 (strongly agree). Median values shown.

| Semester Year | Course Name | Number Of Students | Presents material clearly | Questions answered clearly and concisely | Instructor is an effective teacher | Increased interest in course material |
|---------------|---|--------------------|---------------------------|--|------------------------------------|---------------------------------------|
| Fall 2003 | 22C:16:A04 Introduction to Computer Science | 41 | 5.93 | 5.80 | 5.92 | 5.70 |
| Fall 2003 | 22C:16:A08 Introduction to Computer Science | 35 | 5.83 | 5.63 | 5.92 | 5.83 |
| Fall 2002 | 22C:16:A01 Introduction to Computer Science | 20 | 5.82 | 5.72 | 5.78 | 5.29 |
| Fall 2002 | 22C:16:A09 Introduction to Computer Science | 20 | 5.68 | 5.72 | 5.76 | 5.60 |

* **CAP and Associates Computer Science Outstanding Teaching Assistant Fall 2002**

TECHNOLOGY

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|-----------------|---|
| Languages: | Java, C++, C, FORTRAN, Prolog, Objective-CAML, Basic, C#, XML, UML, PHP, html, xhtml, Cascading Style Sheets, JSP, Servlets, JDBC, Python |
| Platforms: | Linux Red Hat, Unix, Windows XP, Windows Server 2003, Microsoft SQL Server, MySQL, PostGRES, Oracle 10g, Microsoft Access, Macintosh OS/X, Citrix, Ubuntu Linux |
| Software: | Eclipse, JBuilder, Pico, vi, TextPad, JCreator, Microsoft Office, CVS (versioning), Visual Studio C#, Jude, Tomcat, Apache, Firefox Web Development, Microsoft Visual C++, Dreamweaver, Eclipse Web Development Plug-in, MySQL Administrator, D2L, VMWare, CVS, Subversion, gedit, geany. |
| Bioinformatics: | Genehunter, lcp, Linkmap, MLINK, Cyrrilic, Blast, Blat, NCBI Entrez, Cn3D, Protein Databank, bio-PHP |

SCHOLARSHIP AND RESEARCH

Publications

- M. Cloutier, “*Virtualization VMWare*” **Dr. Dobbs Digest, The Art and Business of Software Development**, February 2009, pages 8-9, Dr. Terrence Mason Advisor, www.ddj.com.
- M. Cloutier and T. Mason, “*Virtualization VMWare*” **University of Wisconsin-Stout, Journal of Student Research**, Volume VII, April 2008, pages 30-40.
- T. Mason, **Schema-Free SQL- Providing Freedom from The Schema Knowledge Required to Formulate SQL Queries**, VDM Verlag Dr. Mueller 2007. ISBN 978-3836421393, 132 pages.
- T. Mason and R. Lawrence, “Auto-completion of Underspecified SQL Queries” **25th International Conference on Conceptual Modeling (ER) 2006, Tucson, Arizona**, November 6-9, 2006. Conceptual Modeling – ER 2006 ISBN 978-540-47224-7, page 584.
- T. Mason and R. Lawrence, “INFER: A Relational Query Language without the Complexity of SQL.” **ACM Fourteenth Conference on Information and Knowledge Management (CIKM) 2005, Bremen, Germany**, November 1-5, 2005. ISBN 1-59593-140-6, pages 241-242. [40% acceptance rate]
- T. Mason, L. Wang, and R. Lawrence, “AutoJoin: Providing Freedom from Specifying Joins.” **7th International Conference on Enterprise Information Systems - Human-Computer Interaction Track, Miami, FL**, May 24-28, 2005. ISBN 972-8865-19-8, Volume 5, pages 31-38. [20% acceptance rate]
- T. Mason and R. Lawrence, “**Dynamic Database Integration in a JDBC Driver.**” **7th International Conference on Enterprise Information Systems - Databases and Information Systems Integration Track, Miami, FL**, May 24-28, 2005. ISBN 972-8865-19-8, Volume 1, pages 326-333. [43% acceptance rate]

Presentations

- “**Super Stout Brothers & Sisters: Refactoring 2-D Games**”, Rob Zimmerman, Aaron Bestul, Stephanie Boyd, Christopher Lutz, Jaimeson Lutz, Jessica Moore, Chong Vang Advisor: Terry Mason. Research Day University of Wisconsin-Stout, Menomonie, Wisconsin, April 30, 2008. ****Awarded Outstanding Research Presentation Award.**
- “**Development of a UW-Stout Chemical Screening Database**”. Shane Webb, Benedict Matern, Terrence Mason, and Michael Pickart. Research Day University of Wisconsin-Stout, Menomonie, Wisconsin, April 30, 2008.
- “**Discovering Inheritance through a Popular Video Game in CS1**” 39th ACM Technical Symposium on Computer Science Education, Portland, Oregon, March 12-15, 2008.
- “**Auto-completion of Underspecified SQL Queries**” 25th International Conference on Conceptual Modeling (ER) 2006, Tucson, Arizona, November 6-9, 2006.
- “**INFER: A Relational Query Language without the Complexity of SQL.**” ACM CIKM 2005, Bremen, Germany, November 1-5, 2005.

SCHOLARSHIP AND RESEARCH

Presentations (Continued)

- **“AutoJoin: Providing Freedom from Specifying Joins”** - 7th International Conference Enterprise Information Systems (ICEIS) - Human-Computer Interaction, Miami, May 2005.
- **“Dynamic Database Integration in a JDBC Driver”** - 7th International Conference Enterprise Information Systems (ICEIS) - Databases and Information Systems Integration Track, Miami, FL, May 24, 2005.
- **“Improving Database Usability with Query Inference”** - *Invited Presentation* at Iowa Database and Emerging Application Laboratory seminar series on February 12, 2004.

Grants and Awards

- **National Science Foundation, Course Curriculum Laboratory Improvement** Submitted May 2008 (under evaluation) “Integrating career application modules into introductory mathematics and computer sciences courses” Dr. Laura Schmidt, Dr. Joy Becker, Dr. Diane Christie, Dr. Terrence Mason.
 - **Outstanding Research Presentation Award** Super Stout Brothers & Sisters: Refactoring 2-D Games, Research Day University of Wisconsin-Stout, Advisor to eight independent study students.
 - **\$1,500 OPID Lesson Study Grant** (2007) on object inheritance in Computer Science 1 course in collaboration with Dr. Diane Christie, Dr. Radi Teleb, and Dr. Bruce Johnston.
 - **\$1,500 Professional Development Grant** (Fall 2006) at University of Wisconsin – Stout to attend ACM SIGCSE Conference in March of 2007.
 - **David Spang Award for Academic Achievement** Fall 2004 - Spring 2005 University of Iowa
 - **\$1,500 Computer Science Academic Fellowship**, University of Iowa, Computer Science Fall 2003. Due to demonstrated research potential in Ph.D. program.
 - **Computer Science Outstanding Teaching Assistant** Fall 2002, Computer Science I teaching assistant and discussion leader.
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SERVICE

University of Wisconsin – Stout

University Service

- *Curriculum and Instruction Committee* – Representing STEM College (2008-current). In addition, a member of subcommittee to review special topics course offering policy.
- *Computer/Electrical Engineering Degree Program Advisory Committee*, Member in Department of Engineering and Technology. (2008-present)
- *Biology Hiring Committee (2007)*, Inter-departmental Representative for Biology Department Hiring Committee.

Department of Math, Statistics, and Computer Science

- *Computer Science Minor Advisor*, Advise students pursuing CS minor (2008-present)
- *Computer Science Hiring Committee (2008)*, chair search committee.
- *Bioinformatics Hiring Committee (2007-2008)*, bioinformatics hiring committee.
- *IBM Sponsored ACM Programming Contest*
 - *Coach and Judge (2008)* – three UW-Stout teams
 - *Site Manage (2007)* host teams from four universities
 - *Coach (2007)* - three UW-Stout teams
 - *Coach (2006)* - two UW-Stout teams and judge for contest in Eau Claire.
- *MSCSApps Windows Server and RedCedar2 Linux Server Liaison*, liaison for the set up and structure of the servers to support CS-443 Database Systems, CS-248 Web and Internet Programming courses.
- *Bioinformatics Hiring Committee (2006-2007)* - actively involved on bioinformatics hiring committee.
- *UW-Stout Laboratory and Classroom Modernization*, Presentation (2008), Member 2006 - 2008
- *Laboratory Software on Lab machines*, specification of software for 2007-2008 year
- *Game Design and Development Advisory Board* (2008-present), member
- *Textbook Committees* – CS-144 Computer Science I, CS-145 Computer Science II, Cs-244 Data Structures, CS-248 Web and Internet Programming (chair), CS-443 Database Systems (chair), CS-442 Systems Programming, CS-441 Architecture, MATH-380 Cryptography

Applied Mathematics and Computer Science Program

- *Program Advisory Committee*, Computer Science Faculty Representative (2006 – Present)
- *High School Preview Days (Fall 2007)* Represented program to prospective High School Students
- *Service Learning Project in Web and Internet Programming (2007)*, Students developed website to promote community involvement in playground project at River Heights Community Playground.

Computer Science Education

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|--------------|--------------------|
| 2002-Present | Member, ACM |
| 2006-Present | Member, ACM SIGCSE |

Research Awards and Projects

Competitive Research Awards, University of Wisconsin – Stout

- **OPID Lesson Study Grant -“Inheritance in Object-oriented programming in Computer Science 1”** funded by Nakatani Center. Developed object oriented code for lesson study during two independent studies based on a well known video game. (Spring, Summer, and Fall 2007)
- **\$1,500 Professional Development Grant (Fall 2006)** at University of Wisconsin – Stout to attend ACM SIGCSE Conference in March of 2007.

Competitive Research Assistant Awards, University of Iowa

- **Research Assistant for Dr. Ramon Lawrence -“A JDBC Driver Supporting Data Integration and Evolution”** funded by Army Research Office with grant DAAD19-02-1-0455. Developed and implemented database system algorithms in a database integration tool. The system is embedded in the standard Java JDBC API. (Spring and Summer 2003)
- **Departmental Research Assistant -“AutoJoin: Automatic Join Determination for Relational Databases”** funded by Computer Science Department and awarded based on research potential. Created a general query inference engine which automatically determines the joins for underspecified relational queries. (Spring 2004).
- **Center for Bioinformatics and Computational Biology at University of Iowa, Research Assistant - “Clinical and Expression Database”** funded collaboration with bioinformatics group to develop a database schema designed to integrate clinical data with expression data within the framework of the National Cancer Institute’s (NCI) grid. Continued research for a query language based solely on NCI common vocabulary. (Spring and Summer 2005)

Research Projects, University of Iowa

AutoJoin Inference Engine – Created a general inference engine to automatically determine the joins for underspecified queries. The engine efficiently identifies enumerates all potential sets of joins for an underspecified query.

INFER Query Language – Defined a query language that extends SQL to allow for the partial specification of queries without the specification of joins and tables. INFER is a new query language based on the structure of SQL and built on the technology of the AutoJoin inference engine to complete queries.

Auto-Complete SQL Tool– Built a tool to cooperatively disambiguate an INFER query that has more than one interpretation by resolving the schema ambiguity with the user.

Unity JDBC Driver for Database Integration – Continued development of database management system embedded in JDBC Java API. Details listed under teaching experience and Programming Coordinator for Unity Database Integration Project.

Database Laboratory Management – Iowa Database and Emerging Applications Lab

- *Systems Administrator* – Supported applications on 5 dual boot Linux/Windows XP machines. Maintained Linux server with MySQL for database projects. Maintain Windows 2003 Server with Microsoft SQL Server for project development.
- *Database Administrator* – Set up accounts and permissions for homework assignments, projects, and research on MySQL and SQLServer Database Management Systems (Fall 2004-Current)
- *Project Coordinator Software Development* – Managed over 30,000 lines of source code for multiple programmers through CVS versioning.

Professional Experience

Nalco/Calgon Corporation 2/1997 – 12/2000

1996 – 2000 Consulting Engineer and Alliance Coordinator, Iowa City, IA

- Provided consulting services for water treatment at 9 power plants.
- Increased business from 5 to 9 power plants.
- Managed three consulting engineers plus technical resources.
- Completed plant-wide audits on water treatment to each station.
- Reduced downtimes due to water fouling at each plant.

Presentations/Training

- *Invited Training Seminar*, Ottumwa Generating Station, Ottumwa IA, October 1999 - Developed materials and presentation for a 2-day seminar on water treatment in power plant for mixed audience of operators, supervisors, and plant manager
- *Invited Bi-Monthly Water Chemistry Training*, Burlington Generating Station, Burlington, IA and Prairie Creek Station, Cedar Rapids, IA 1999-2000 - One hour training sessions on water chemistry

BASF Corporation 2/1990 – 8/1996

1994-1996 Technical Sales Representative, Huntington Beach, CA

- Developed market for water-soluble polymers with consortium at Colorado School of Mines
- Increased sales 40% through technical sales to research chemists.

1992-1994 Assistant Product Manager, Parsippany, NJ

- Created, implemented, and presented market plans and strategies.
- Developed forecasts and managed inventories with manufacturing facilities in both Europe and USA.
- Led quality task force (multi-department) focused on customer supply.

1990-1992 Professional Development Program Engineer, Wyandotte, MI

- Implemented statistical process control in plastic extrusion facility.
- Assisted as Project Engineer on \$1.2 million Quality Assurance Laboratory.

Ethyl Corporation 6/1989-8/1989

1989 Summer Internship Research Pilot Plant, Baton Rouge, LA

- Team member working with on a pilot plant to scale up projection of hazardous material.
- Completed laboratory experiments to test materials.

IBM Corporation 1/1988-8/1988

1988 Internship Semiconductor Plant, East Fishkill, NY

- Investigated transportation containers as source of contamination for semiconductors.
 - Delivery of hazardous or exotic gas to semi-conductor production line.
 - Work in a clean room environment.
 - Participated in project to evaluate polymer for removal of contamination on semi-conductors.
-