Curriculum Vita* of Peter Alfeld

Personal Data

Peter Alfeld
Department of Mathematics
University of Utah
155 South 1400 East, JWB 233
Salt Lake City, UT 84112-0090, U.S.A.

Married, three children, U.S. citizen
e-mail address: pa@math.utah.edu
Tel. 801-581-6842 or 801-581-6851
www: `http://www.math.utah.edu/~pa/`

Academic Degrees

1. Vordiplom, 1974, University of Hamburg, West Germany
2. Master of Science, 1975, The University Dundee, Scotland
3. Doctor of Philosophy, 1977, The University Dundee, Scotland
   (Advisor: Jack D. Lambert)

Recognition

1972–77	Scholarship by the German National Scholarship Foundation
1980	DOE/Utah Consortium Award # 29270 (together with R.C. Aiken and F.C. Hoppensteadt)
1981	Received a Faculty Grant from the University of Utah Research Committee
1982	University of Utah College of Science Recognition for Superior Teaching Ability
1983	Received a Faculty Grant from the University of Utah Research Committee
1984	Received a Faculty Grant from the University of Utah Research Committee
1982–86	Summer Support by DOE grants DE–AC02–82ER12046 and DE-AC02-85ER12046 (R.E. Barnhill, principal investigator).
1984	Invited participant of the *Oberwolfach Meeting on Surfaces*, Oberwolfach, Germany, November 12-17, 1985
1985	Invited Speaker at the *1985 Dundee Biennial Conference on Numerical Analysis* Dundee, Scotland, June 15-18, 1985
1986	Invited participant of the *Fifth International Symposium on Approximation Theory*, Texas A&M University, January 13–17, 1986
1986	Invited participant of the *Participatory Symposium on Topics in CAGD*, Wolfenbüttel, Germany, June 24–27, 1986
1987–1990	NSF grant DMS-8701121
1988	Received a Faculty Grant from The University of Utah Research Committee
1988	Invited Speaker at the conference *Mathematical Methods in CAGD*, Oslo, Norway, June 16–22, 1988
1989	Invited Speaker, Multivariate Approximation Theory IV, Oberwolfach, February 12–18, 1989
1989	Invited Speaker, Surfaces in Geometric Data Processing, Oberwolfach, April 16–22, 1989
1990	Invited Speaker, Workshop on Algebraic Issues in Geometric

*** prepared January 14, 2021**

	Computation, DIMACS, Rutgers University, May 21–25, 1990
1990	Invited Speaker, Algebraic and Combinatorial Problems in Multivariate Approximation Theory, Oberwolfach, October 21–27, 1990
1991	Invited Speaker, Conference on Combinatorics and Discrete Geometry, Mathematical Sciences Institute, Cornell University, Ithaca NY, July 17–20, 1991
1991	Invited Speaker, Numerische Methoden der Approximationstheorie, Oberwolfach, November 24–30
1992–1994	NSF grant DMS 92-03859
1994	Invited Speaker, Mathematical Methods in Computer Aided Geometric Design, Ulvik, Norway, June 16–21
1995	Invited Minisymposium Organizer, Fourth SIAM Conference on Geometric Design Nashville, Tennessee, November 6–9.
1995	Invited Speaker, University of Georgia, November 10
1997	Invited to Oberwolfach meeting on "Numerische Methoden the Approximationstehorie", May 11-17, 1997.
1999	received ASUU Student Choice Award for Teaching Excellence
2005	(Departmental) Faculty Undergraduate Teaching Award
2007	received the MAA Intermountain Section "Award for Distinguished College or University Teaching of Mathematics in recognition of extraordinarily successful teaching".
2009	received the University of Utah Distinguished Teaching Award
2015	Invited Speaker, Multivariate Splines and Algebraic Geometry Oberwolfach, April 19-25
2017	Sigma Chi Fraternity 2017 Outstanding Professor Award
2017	received Departmental Faculty Undergraduate Teaching Award

Professional Experience

1977–79	Instructor of Mathematics, University of Utah, Salt Lake City, Utah
1979–82	Assistant Professor of Mathematics, University of Utah, Salt Lake City, Utah
1982–87	Associate Professor of Mathematics, University of Utah, Salt Lake City, Utah
1983-84	Visiting Associate Professor, Mathematics Research Center, University of Wisconsin-Madison
1987–	Professor of Mathematics, University of Utah, Salt Lake City, Utah
1997–2003	Associate Department Chair, University of Utah, Salt Lake City, Utah

Bibliography

Theses, Manuscripts, Reports, Proceedings

[1] Peter Alfeld; *A Survey of Zadunaisky's Device Applied to Ordinary Differential Equations*; M.Sc. Thesis, The University Dundee, 1975, pp 1–132.

[2] Peter Alfeld; *Correction in the Dominant Space: A New Technique for the Numerical Solution of Certain Stiff Initial Value Problems*; Ph.D. Thesis, The University Dundee, 1977, pp 1–344.

[3] Peter Alfeld; *Two Devices for Improving the Efficiency of Stiff ODE Solvers*; in Proceedings of the 1979 SIGNUM Meeting on Numerical Ordinary Differential Equations, U. Ill. Dept. of Comp. Science Rep. 79–1710, pp 24-1 to 24-3.

[4] Peter Alfeld; *A* **REDUCE** *Algorithm for the symbolic computation of Padé approximants*; manuscript, 1980.

[5] Peter Alfeld; *Least Squares and Number Theory*; manuscript, 1980.

[6] F.C. Hoppensteadt and Peter Alfeld; *Explosion Mode Analysis of an H_2–O_2 Reaction*; in R.C. Aiken (ed.) Proceedings of The International Conference on Stiff Systems, Park City, April 12–14, 1982.

[7] Peter Alfeld and Bill Harris; **MICROSCOPE:** *A Software System for Multivariate Analysis*; MRC Technical Summary Report #2701, Mathematics Research Center, University of Wisconsin–Madison, 1984, plus a portable **FORTRAN** software package of approximately 6000 lines of code, available from *netlib@anl-mcs.arpa*.

[8] Peter Alfeld; *Triangular Extrapolation*; MRC Technical Summary Report #2707, Mathematics Research Center, University of Wisconsin–Madison, 1984.

[9] Peter Alfeld; *Trivariate Adaptive Cubature*; Proceedings of the Fifth International Symposium on Approximation Theory, College Station, Texas, January 12–17, 1986, C. Chui, L.L. Schumaker and J.D. Ward (ed.), Academic Press, 1986, pp. 231–234.

[10] Peter Alfeld; *The Multivariate Spline Newsletter*; Published privately: Issue 1 (9/2/87), Issue 2 (2/21/88), Issue 3 (10/18/88).

[11] Johnson, C., and Alfeld, P.; *Computational Engineering and Science at the University of Utah*; IEEE Computational Science and Engineering, Fall 1994, pp. 7–10.

Refereed Publications, in order of publication

[12] Peter Alfeld and J.D. Lambert; *Correction in the Dominant Space: A numerical technique for a certain class of stiff initial value problems*; Math. Comp. 31 (1977), pp 922–938.

[13] Peter Alfeld; *Inverse Linear Multistep Methods for the Numerical Solution of Initial Value Problems of Ordinary Differential Equations*; Math. Comp. 33 (1979), pp 111–124.

[14] Peter Alfeld; *An Improved Version of the Reduction to Scalar CDS Method for the Numerical Solution of Separably Stiff Initial Value Problems*; Math. Comp. 33 (1979), pp 535–539.

[15] Peter Alfeld; *A Special Class of Explicit Linear Multistep Methods for the Correction in the Dominant Space technique*; Math. Comp. 33 (1979), pp 1195–1212.

[16] Peter Alfeld; *A Method of Skipping the Transient Phase in the Solution of Separably Stiff Ordinary Initial Value Problems*; Math. Comp. 35 (1980), pp 1173–1176.

[17] F.C. Hoppensteadt, Peter Alfeld, and R.C. Aiken; *Numerical Treatment of Chemical Kinetics by Perturbation and Projection Methods*; in Modelling of Chemical Reaction Systems, K.Ebert, P.Deuflhard, W. Jäger, eds., Springer-Verlag, 1981, pp 31–38.

[18] Peter Alfeld; *Fixed Point Iteration With Inexact Function Values*; Math. Comp. 38 (1982), pp 87-98.

[19] K. Furlong, D. Chapman, and Peter Alfeld; *Thermal Constraints on the Geometry of Subduction: Tectonic Implications*; Journal of Geophysical Research, v 87, 1982, pp 1786–1802.

[20] Peter Alfeld and R.E. Barnhill; *A Transfinite C^2 Interpolant over Triangles*; Rocky Mountain Journal of Mathematics, v 14 (1984), pp 17–39.

[21] Peter Alfeld; *Two Discrete C^2 Interpolants*; Appendix of above reference.

[22] Peter Alfeld; *A discrete C^1 interpolant for tetrahedral data*; Rocky Mountain Journal of Mathematics, v 14 (1984), pp 5–16.

[23] Peter Alfeld; *A Trivariate Clough-Tocher Interpolation Scheme*; Computer Aided Geometric Design J., v 1 (1984), pp 169-181.

[24] Peter Alfeld; *A Bivariate C^2 Clough-Tocher Scheme*; Computer Aided Geometric Design J., v 1 (1984), pp 257–267.

[25] Peter Alfeld; *Multivariate Perpendicular Interpolation*; SIAM Journal on Numerical Analysis, v 22 (1985), pp 95–106.

[26] Peter Alfeld; *Derivative Generation from Multivariate Scattered Data by Functional Minimization*; Computer Aided Geometric Design J., v 2 (1985), pp 281–296.

[27] P. Alfeld; *On the Dimension of Piecewise Polynomial Functions*; in D.E. Griffiths and G.A.Watson (ed.) Numerical Aalysis, Pitman Research Notes in Mathematics Series, No. 140, pp. 1–23, Proceedings of the Biennial Dundee Conference on Numerical Analysis, June 25–28, 1985, Langman Scientific and Technical.

[28] Peter Alfeld; *A Case Study of Multivariate Piecewise Polynomials*; in "Geometric Modeling", G. Farin (ed.), SIAM publication, 1987, pp. 149–160. (This paper is revised periodically to provide a record of a growing set of examples. Contact the author for a copy of the newest version.)

[29] Peter Alfeld, Bruce Piper, and L.L. Schumaker; *Minimally Supported Bases for Spaces of Bivariate Piecewise Polynomials of Smoothness r and Degree $d \geq 4r + 1$*; Computer Aided Geometric Design J 4 (1987), pp. 105–124.

[30] Peter Alfeld and L.L. Schumaker; *The Dimension of Bivariate Spline Spaces of Smoothness r for Degree $d \geq 4r + 1$*; J. Construct. Approx. Theory, Springer Verlag, 1987, pp. 189–197.

[31] Peter Alfeld, Bruce Piper, and L.L. Schumaker; *An Explicit Basis for C^1 Quartic Bivariate Splines*; SIAM J. Num.Anal. 24 (1987), pp. 891–911.

[32] Peter Alfeld, Bruce Piper, and L.L. Schumaker; *Spaces of Bivariate Splines on Triangulations with Holes*; J. Approx. its Appl., v. 3 (1987), pp. 1–10.

[33] Alfeld, P.; *Scattered Data Interpolation in Three or More Variables*; in Tom Lyche and Larry L. Schumaker (eds), "Mathematical Methods in Computer Aided Geometric Design", Academic Press, 1989, 1–34.

[34] Peter Alfeld, David J. Eyre, and Larry L. Schumaker; *Machine-Aided Investigation of Multivariate Spline Spaces*; in C.K. Chui, L.L. Schumaker, and J.D. Ward (eds), Approximation VI, Academic Press, 1989, 1–4.

[35] Alfeld, P., and Eyre, D.J; *Algorithm 701, Goliath, A Software System for the Exact Analysis of Rectangular Rank-Deficient Sparse Rational Linear Systems*; ACM TOMS, 17 No. 4, December 1991, 519–532.

[36] Alfeld, P., L.L. Schumaker, and M. Sirvent; *On Dimension and Existence of Local Bases for Multivariate Spline Spaces*; Journal of Approximation Theory, 70 (1992), pp. 243–264..

[37] Alfeld, P., and Sirvent, M.; *A Recursion Formula for the Dimension of Superspline Spaces of Smoothness r and Degree $d > r2^k$*; W. Schempp and K. Zeller (eds), Approximation Theory V, Proceedings of the Oberwolfach Meeting, February 12–18, 1989, Birkhäuser Verlag, pp. 1–8..

[38] Alfeld, P., and Schumaker, L.L., 1989; *On the Dimension of Bivariate Spline Spaces of Smoothness r and Degree $d = 3r + 1$*; Numer. Math. 57, 651-661 (1990).

[39] Alfeld, P., and David Eyre; *The Exact Analysis of Sparse Rectangular Linear Systems*; ACM TOMS, 17 No. 4, December 1991, 502–518.

[40] Alfeld, P., and Sirvent, M.,; *The Structure of Multivariate Superspline Spaces of High degree*; Math. Comp. 57 (1991), pp 299–308.

[41] Alfeld, P., L. L. Schumaker, and W. Whiteley; *The generic dimension of the space of C^1 splines of degree $d \geq 8$ on tetrahedral decompositions*; SIAM JNA, v. 30, pp. 889–920, 1993.

[42] Alfeld, P., M. Neamtu, and L.L. Schumaker; *Circular Bernstein-Bézier Polynomials*; in Mathematical Methods in CAGD, M. Daehlen, T. Lyche, and L. L. Schumaker (eds), Vanderbilt University Press, 1995, 1–10..

[43] Alfeld, P.; *Upper and Lower Bounds on the Dimension of Multivariate Spline Spaces*; SIAM JNA, v. 33, No. 2, pp. 571–588, April 1996..

[44] Alfeld, P., M. Neamtu, and L.L. Schumaker; *Fitting scattered data on sphere-like surfaces using spherical splines.*; Journal of Computational and Applied Mathematics, 73 (1996), 5–43.

[45] Alfeld, P., M. Neamtu, and L.L. Schumaker; *Dimension and Local Bases of Homogeneous Spline Spaces*; SIAM J. Mathematical Analysis, v. 27, No. 5, pp. 1482-1501, September 1996.

[46] Alfeld, P., M. Neamtu, and L.L. Schumaker; *Bernstein-Bézier Polynomials on Spheres and Sphere-Like Surfaces*; CAGD Journal 13 (1996), 333–349..

[47] Alfeld, P., and L.L. Schumaker; *Non-existence of Star-supported Spline Bases*; SIAM J. Math. Anal. 31 (2000), 455-465..

[48] Alfeld, P; *Bivariate Splines and Minimal Determining Sets*; Journal of Computational and Applied Mathematics, 119 (2000), 13–27.

[49] Alfeld, P., and L.L. Schumaker; *Smooth Macro-Elements Based on Powell-Sabin Triangle Splits*; Adv. Comp. Math., **16** (2002), 29–46..

[50] Alfeld, P., and L.L. Schumaker; *Smooth Macro-Elements Based on Clough-Tocher Triangle Splits*; Numer. Math. 90 (2002), 597–616.

[51] Alfeld, P., and L.L. Schumaker; *Upper and Lower Bounds on the Dimension of Superspline Spaces*; Constructive Approximation 19 (2003), 145–161.

[52] Alfeld, P., and L.L. Schumaker; *A C^2 Trivariate Macro-Element Based on the Clough-Tocher Split of a Tetrahedron*; CAGD journal, 22 (2005), pp. 710-721..

[53] Alfeld, P., and L.L. Schumaker; *A C^2 Trivariate Macro-Element Based on the Worsey-Farin Split of a Tetrahedron*; SIAM Journal on Numerical Analysis, Vol 43 (2005), No. 4, pp. 1750-1756..

[54] Alfeld, P., and L.L. Schumaker; *A C^2 Trivariate Double-Clough-Tocher Macro-Element*; in Approximation Theory XI: Gatlinburg 2004, C. Chui, M. Neamtu, and L. L. Schumaker (eds), Nashboro Press (Brentwood), 2005, 1–14..

[55] Alfeld, P., and L.L. Schumaker; *Bounds on the Dimensions of Trivariate Spline Spaces*; Advances in Computational Mathematics, Springer Verlag, DOI 10.1007/s10444-007-9051-6, 2007.

[56] Alfeld, P., and T. Sorokina; *Two Tetrahedral C^1 Cubic Macro Elements*; Journal of Approximation Theory, 157 (2009), 53–69, DOI: 10.1016/j.jat.2008.07.001.

[57] Alfeld, P., L.L. Schumaker, and T. Sorokina; *Two Condensed Macro-Elements with Full Approximation Power*; Advances in Comp. Math., **32** (2010), pp. 381-391.

[58] Alfeld, P.; *Many Formulas*; Journal of the Oughtred Society, v. 18, No. 2, 2009, pp. 18–21.

[59] Alfeld, P., T. Sorokina; *Linear Differential Operators on Bivariate Spline Spaces and Spline Vector Fields*; BIT Numerical Mathematics, March 2016, Volume 56, Issue 1, pp 15-32, (DOI) 10.1007/s10543-015-0557-x.

[60] Alfeld, P.; *Multivariate Splines and the Bernstein-Bézier form of a polynomial*; in Mathematisches Forschungsinsitut Oberwolfach, Report 21/2015, DOI: 104171/OWR/2015/21, 2015, pp. 5–8.

[61] Alfeld, P.; *Multivariate Splines and the Bernstein-Bézier form of a polynomial*; Comput. Aided Geom. Des. July 2016, v. 45, pp 2–13, http://dx.doi.org/10.1016/j.cagd.2015.11.007.

Web Pages

I have developed extensive web pages. A partial list of significant pages follows:

— `http://www.math.utah.edu/~pa/MDS/` Built around approximately 25,000 lines of java code that allows interactive construction of minimal determining sets for bivariate spline spaces. Can be used for teaching and research. The code has been instrumental for several of the publications listed above.

— `http://www.math.utah.edu/~pa/3DMDS/` Developed initially during the year 2003-2004, the trivariate analog of the above mentioned MDS software, consisting of about 24,000 lines of java code. So far this software has lead to the discovery of several trivariate C^2 schemes, and improved bounds on the dimension of trivariate spline spaces.

— `http://www.math.utah.edu/~pa/tp/` Similar software for the analysis of subspaces of tensor product spaces.

— `http://www.math.utah.edu/~pa/math.html` A study guide for undergraduate students. This is the "I'm feeling lucky" response to a Google search for "understanding mathematics".

— `http://www.math.utah.edu/online/1010.` An online course on Intermediate Algebra.

Ongoing Research

— Structure of Spaces of Multivariate Piecewise Polynomials

— Design and Analysis of Multivariate Interpolation Schemes

— Design of high order triangular finite elements

Other Professional Activities

Member of:

— American Mathematical Society (AMS)

Selected Committees served on:

— Graduate Awards Committee (1979–81)
— Committee for the reorganization of Calculus with Computing (1979–80)
— Instructorship Committee (1981–83,1984–85)
— Undergraduate Committee (represent Applied Mathematics) (1981–82)
— Graduate Committee (1985–89)
— Curriculum Committee (1986–88)
— University of Utah Academic Senate (1985–88)
— University of Utah Academic Evaluations and Standard Committee (1987–1990)
— Tenured Faculty Review Committee (1987–88, 1989–90, 1992–3 (chair))
— Associate Director of Computing (1985–89)
— Director of Computing (1989–93)
— Advisory Board for the Utah Supercomputing Institute (1992–3)
— Search Committee for Director USI/Special Assistant (1993–94)
— University of Utah Task Force on Computing (1994–1997)
— Department of Mathematics Undergraduate Program Committee (1994–1995)
— University of Utah Academic Senate (1996–99, 2003–2006, 2008-2011, 2014–2017)
— Department of Mathematics Executive Committee (1996–98)
— Department of Mathematics Associate Department Chair (1997–2003)
— University Conflict of Interest Committee (2004–2007)
— University Annuities and Salaries Committee (2007–2010)
— University Academic Freedom and Faculty Rights Committee (2009-2012)
— University Diversity Committee (2010–2013)
— University Teaching Committee (2016–2019)
— University Promotion and Tenure Advisory Committee (UPTAC) (2018–)
— University Consolidated Hearing Committee (2018–)

Referee/reviewer for numerous publications, including:

— ACM-TOMS
— Addison-Wesley Publishing Company
— Applied Mechanics Reviews
— Computer Aided Geometric Design, An International Journal
— Computing Reviews
— IMA Journal on Numerical Analysis
— Journal of Approximation Theory
— Journal of Computational and Applied Mathematics
— Mathematical Biosciences
— Mathematical Reviews
— Mathematics of Computations
— National Science Foundation
— Rocky Mountain Journal
— Prentice Hall Publishers

— SIAM Journal on Scientific and Statistical Computing
— SIAM Journal on Numerical Analysis
— Transactions of the AMS
— ACM Transactions on Graphics
— Constructive Approximation
— NSF panel on Graduate Fellowships, February 1995, 1997, and 1998 (chair)) in "Applications of Mathematics".

Courses taught:
— College Algebra
— Plane Trigonometry
— Scientific Computing in FORTRAN
— Calculus
— Calculus with Computing
— Introduction to Differential Equations
— Introduction to Linear Algebra
— Analysis of Curves and Surfaces
— Introduction to Applied Mathematics
— Survey of Numerical Analysis
— Introduction to Numerical Analysis
— Mathematical Computer Modelling
— Advanced Numerical Analysis (Numerical Solution of Partial Differential Equations)
— Advanced Numerical Analysis (Approximation Theory)
— Topics in Numerical Analysis (Concepts in Numerical Analysis)
— Topics in Numerical Analysis (Sparse Matrix Problems)
— The real number system for elementary school teachers.
— Geometry for elementary school teachers.

Graduate Students:
— Avery Bishop, M.S., (no thesis) 1982
— Carmen Buhler, M.S., 1983, A Survey of the Multigrid Method for Elliptic Boundary Value Problems
— Kim Rescorla, Ph.D., 1985, Multivariate Interpolation
— Robert Pine, M.S., 1985 Adaptive Trivariate Numerical Integration
— Adelle Morris, M.S., 1988, Convexity of Bézier Curves and Surfaces
— Maritza Sirvent, Ph.D., 1990, The Dimension of Multivariate Spline Spaces
— David Eyre, M.S., 1989, Exact Analysis of General Sparse Rational Linear Systems.
— Pete Jahsman, M.S., 1992, Parallel Solution of Least Squares Problems.
— Mike Hohn, M.S., 1993, Solution of Linearly Constrained Least Squares and Related Problems.
— Bill Brimley, M.S., 1994, Four-sided representations of three-sided surfaces.
— Vera Babenko, Ph.D., 2016, Numerical Analysis in L-Spaces
— Lance Halsten, M.S., 2017, The Global Positioning System, CES Project.

Teaching Experience and Course Evaluations

The following tables list the responses to course evaluations regularly run at the end of the quarter. The results are listed for all courses for which the evaluation was carried out. Departmental averages are listed in parentheses whenever they are available. The tables also provide a record of my teaching experience. The students were asked to respond to the question "What is your overall rating of this instructor?" on a scale of 1 (bad) to 7 (good).

Fall 1977		
Math 115	Calculus with Computing	5.0
Math 561	Introduction to Numerical Analysis	5.9
Winter 1978		
Math 116	Calculus with Computing	5.4 (5.1)
Math 562	Introduction to Numerical Analysis	5.7 (5.1)
Spring 1978		
Math 117	Calculus with Computing	4.8 (5.4)
Math 563	Introduction to Numerical Analysis	5.5 (5.4)
Fall 1978		
Math 115	Calculus with Computing	4.2 (5.1)
Math 560	(Survey of Numerical Analysis)	5.9 (5.1)
Winter 1979		
Math 116	Calculus with Computing	6.3 (5.0)
Math 561	Introduction to Numerical Analysis	6.1 (5.0)
Spring 1979		
Math 117	Calculus with Computing	5.7 (5.1)
Math 562	Introduction to Numerical Analysis	6.5 (5.1)

In the fall of 1979 the grading scale was changed from 1 to 5 and the question was changed to "What is your overall opinion of this instructor?"

Fall 1979		
Math 560	Survey of Numerical Analysis	4.2
Math 561	Introduction to Numerical Analysis	4.1

In the winter of 1980 the grading scale was changed again, this time to 0 to 4 (corresponding to E to A). The question was changed to: "Compared to other classes you have taken, what was the overall effectiveness of the instructor?".

Winter 1980		
Math 562	Introduction to Numerical Analysis	3.8 (2.9)
Math 660	Mathematical Computer Modeling	3.6 (2.9)
Spring 1980		
Math 563	Introduction to Numerical Analysis	3.5 (2.9)
Math 664	Numerical Solution of PDEs	4.0 (2.9)
Fall 1980		

Math 560	Survey of Numerical Analysis	3.6
Math 786	Concepts in Numerical Analysis	no evaluation

Winter 1981

Math 561	Introduction to Numerical Analysis)	3.4
Math 786	Sparse Matrix Problems	3.8

Spring 1981

Math 562	Introduction to Numerical Analysis	3.5
Math 786	Sparse Matrix Problems	no evaluation

Fall 1981

Math 561	Introduction to Numerical Analysis	2.9
Math 664	Numerical Solution of Differential Equations	no evaluation

Winter 1982

Math 562	Introduction to Numerical Analysis	3.3
Math 665	Numerical Solution of Differential Equations	no evaluation

Spring 1982

Math 563	Introduction to Numerical Analysis	3.7
Math 666	Numerical Solution of Differential Equations	no evaluation

Summer 1982

Math 560	Survey of Numerical Analysis	no evaluation

Fall 1982

Math 105	College Algebra	2.5
Math 660	Mathematical Computer Modeling	no evaluation

Winter 1983

Math 561	Introduction to Numerical Analysis	2.6

Spring 1983

Math 562	Introduction to Numerical Analysis	3.2

Fall 1983 — Summer 1984 sabbatical leave, no teaching

Fall 1984

Math 664	Numerical Solution of ODEs	no evaluation

Winter 1985

Math 665	(Finite Difference methods for PDEs)	4.0

Spring 1985

Math 560	Survey of Numerical Analysis	2.7
Math 666	Finite Element Methods	no evaluation

Fall 1985

Math 561	Introduction to Numerical Analysis	3.5

Winter 1986

Math 362	Analysis of Curves and Surfaces	3.8
Math 562	Introduction to Numerical Analysis	3.5

Spring 1986

Math 363	Analysis of Curves and Surfaces	3.7
Math 563	Introduction to Numerical Analysis	3.5

Fall 1986		
Math 661	Approximation and Optimization	3.8
Winter 1987		
Math 662	Approximation and Optimization	3.5
Spring 1987		
Math 663	Approximation and Optimization	3.3
Fall 1987		
Math 561	Introduction to Numerical Analysis	3.2
Winter 1988		
Math 562	Introduction to Numerical Analysis	3.6
Spring 1988		
Math 119	Introduction to Scientific Computing	
Math 563	Introduction to Numerical Analysis	
Fall 1988		
Math 118	Introduction to Scientific Computing	3.4
Math 560	Survey of Numerical Analysis	
Winter 1989		
Math 119	Introduction to Scientific Computing	
Spring 1989		
Math 405	Mathematics for Elementary School Teachers	2.3
Fall 1989		
Math 561	Introduction to Numerical Analysis	2.6
Winter 1990		
Math 562	Introduction to Numerical Analysis	3.6
Spring 1990		
Math 563	Introduction to Numerical Analysis	
Fall 1990		
Math 661	Analysis of Numerical Methods	3.6
Fall 1990		
Math 661	Analysis of Numerical Methods	3.7
Fall 1990		
Math 661	Analysis of Numerical Methods	
Winter 1991		
Math 560	Survey of Numerical Analysis	3.1
Math 662	Analysis of Numerical Methods	
Spring 1991		
Math 663	Analysis of Numerical Methods	
Fall 1991		
Math 571	Introduction to Applied Mathematics	3.2
Winter 1992		
Math 572	Introduction to Applied Mathematics	3.5
Spring 1992		
Math 573	Introduction to Applied Mathematics	2.7
Fall 1992		
Math 561	Introduction to Numerical Analysis	3.5
Winter 1993		

Math 562 Introduction to Numerical Analysis 3.3

Spring 1993

Math 563 Introduction to Numerical Analysis 3.6

Winter 1994

Math 560 Survey of Numerical Analysis 3.0

Spring 1994

Math 322 Calculus II

Effective Fall of 1994, the format of the course evaluations were changed. The score given is the response to question 9 "Overall, how effective was the instructor?", on a scale from 0 to 4, with letter grades indicated on the evaluation summary.

Fall 1994

Math 561 Introduction to Numerical Analysis I 3.7 (A)

Winter 1995

Math 562 Introduction to Numerical Analysis II

(Numerical averages either were not computed, or were not communicated to me.)

Spring 1995

Math 563 Introduction to Numerical Analysis II

(Numerical averages either were not computed, or were not communicated to me.)

Fall 1995

Math 661 Analysis of Numerical Methods I 4.0

Winter 1996

Math 662 Analysis of Numerical Methods II 4.0

Math 562 Approximation Theory 3.8

Spring 1996

Math 663 Analysis of Numerical Methods III 4.0

Math 106 Trigonometry 2.8

Note: I specifically asked for the opportunity to teach a large precalculus class since I believe that in these early classes the foundations are laid for the students' success or failure in later courses. More of these early courses should be taught by our regular faculty.

Fall 1996

Math 401 Real Numbers for Elementary School Teachers 3.4

Math 561 Basic Numerical Analysis 2.8

Winter 1997

Math 402 Geometry for Elementary School Teachers 3.0

Math 562 Approximation Theory 3.0

Fall 1997

Math 401 Real Numbers for Elementary School Teachers 2.6

Winter 1998

Math 402 Geometry for Elementary School Teachers 2.8

Spring 1998

Math 403 Equations and Algorithms, for Elementary School Teachers 3.5

Starting in the Fall of 1998, the University of Utah uses a semester system.

Fall 1998

Math 6610 Analysis of Numerical Methods I 4.0

Spring 1999

Math 6620	Analysis of Numerical Methods II	4.0
Fall 1999		
Math 1210	Calculus I	2.8

Effective Spring 2000 the University is switching to a University wide system that has six steps from "strongly disagree" to "agree". Numerically the scale ranges from 1 to 6. The relevant statement students agree or disagree with is "Overall this was an effective Instructor". Numbers in parentheses indicate departmental averages (where available).

Spring 2000		
Math 1010	Intermediate Algebra	4.6
Fall 2000		
Math 1050	College Algebra	4.86 (4.90)

About five weeks before the semester ended the instructor of our 1060 courses quit and I took over his two classes to salvage the situation:

Math 1060-1	Plane Trigonometry	5.27 (4.90)
Math 1060-2	Plane Trigonometry	5.33 (4.90)
Spring 2001		
Math 1210	Calculus I	5.26 (5.00)
Summer 2001		
Math 1210	Calculus I	5.50 (5.07)
Fall 2001		
Math 1010	Intermediate Algebra	4.65 (5.03)
Spring 2002		
Math 1010	Intermediate Algebra online	5.39 (5.07)
Summer 2002		
Math 1010	Intermediate Algebra	5.33 (5.17)
Math 1010	Intermediate Algebra online	4.83 (5.17)
Fall 2002		
Math 1010	Intermediate Algebra online	4.94 (4.86)
Math 6610	Analysis of Numerical Methods I	5.63 (4.86)
Spring 2003		
Math 1010	Intermediate Algebra online	4.61 (5.16)
Math 1060	Trigonometry	5.40 (5.16)
Math 6620	Numerical Analysis II	5.25 (4.96)

(Apparently, starting this semester, departmental averages are computed based on class level.)

Summer 2003		
Math 1210	Calculus I	5.54 (5.20)
Math 1010	Intermediate Algebra online	4.94 (5.20)
Fall 2003		

Math 1010	Intermediate Algebra	5.08 (5.00)
Math 1010	Intermediate Algebra online	5.02 (5.02)
Spring 2004		
Math 1010	Intermediate Algebra online	4.39 (5.01)
Math 1050	College Algebra	5.19 (5.01)
Summer 2004		
Math 1010	Intermediate Algebra online	5.00 (5.33)
Math 1210	Calculus I	5.67 (5.33)
Fall 2004		
Math 1010	Intermediate Algebra online	4.89 (4.75)
Math 5610	Num Ana I	5.67 (4.75)
Spring 2005		
Math 1010	Intermediate Algebra online	4.77 (5.00)
Math 1220	Calculus II	5.35 (5.00)
Math 5620	Num Ana II	5.12 (4.75)
Summer 2005		
Math 1010	Intermediate Algebra online	5.38 (5.15)
Math 5600	Survey Num Ana	5.33 (5.17)
Fall 2005		
Math 1010	Intermediate Algebra	5.00 (4.84)
Math 2270	Linear Algebra	5.00 (4.84)
Spring 2006		
Math 1050	College Algebra	4.81 (4.99)
Summer 2006		
Math 4010	Mathematics for Elementary School teachers I	5.13 (5.19)
Math 5600	Survey of Numerical Analysis	5.70 (5.19)
Fall 2006		
Math 1010	Intermediate Algebra	4.75 (4.83)
Math 1250	AP Calculus I	5.80 (4.83)
Spring 2007		
Math 1050	College Algebra	4.40 (4.93)
Math 1060	Trigonometry	4.98 (4.93)
Summer 2007		
Math 1210	Calculus 1	5.07 (5.17)
Math 2270	Linear Algebra	5.69 (5.17)
Fall 2007		
Math 5610	Numerical Analysis I	5.21 (4.97)
Math 6610	Numerical Analysis I	5.25 (4.97)
Spring 2008		
Math 5620	Numerical Analysis II	5.25 (5.05)
Math 6620	Numerical Analysis II	5.00 (5.05)

Summer 2008

Math 2250	Engineering Mathematics	5.62 (5.28)
Math 5600	Survey Numerical Analysis	5.75 (5.28)

Fall 2008

Math 1050	College Algebra	4.94 (4.94)
Math 1250	AP Calculus I	5.48 (4.94)

Spring 2009

Math 1260	AP Calculus II	5.94 (5.0)
Math 5600	Survey Numerical Analysis	5.00 (5.00)

Summer 2009

Math 1010	Intermediate Algebra	5.45 (5.01)
Math 5600	Survey Numerical Analysis	5.59 (5.01)

Fall 2009

Math 1050	College Algebra	4.70 (4.94)
Math 6610	Numerical Analysis I	6.00 (4.94)

Spring 2010

Math 1210	Calculus I	4.88 (5.09)
Math 6620	Numerical Analysis II	6.00 (5.09)

Summer 2010

Math 2270	Linear Algebra	4.96 (5.24)
Math 5600	Survey Numerical Analysis	5.00 (5.24)

Fall 2010

Math 1010	Intermediate Algebra	4.49 (5.05)
Math 1220	Calculus II	5.44 (5.05)

Spring 2011

Math 2210	Calculus III	5.25 (5.03)
Math 2270	Linear Algebra	5.17 (5.03)

Summer 2011

Math 6080	The Mathematics of Google	5.45 (5.15)

Fall 2011

Math 1050	College Algebra	4.6
Math 1220	Calculus II	5.5

(No departmental averages were listed.)

Spring 2012

Math 1050	College Algebra	4.86 (5.18)
Math 2210	Calculus III	5.17 (5.18)

Summer 2012

Math 2270	Linear Algebra	5.39 (5.01)
Math 5600	Survey of Numerical Analysis	5.20 (5.01)

Fall 2012

Math 1210	Calculus I	5.36 (5.01)
Math 5610	Numerical Analysis I	5.65 (5.01)

Spring 2013

Math 1220	Calculus II	5.35 ()
Math 5620	Numerical Analysis II	5.29 ()

(No departmental averages were listed.)

Summer 2013

Math 2210	Calculus III	5.38 (5.02)
Math 5600	Survey Numerical Analysis	5.00 (5.02)
Fall 2013		
Math 1210	Calculus I	5.28 (5.02)
Math 6610	Numerical Analysis I	5.29 (5.02)
Spring 2014		
Math 1220	Calculus II	5.25 (4.99)
Math 6630	Numerical Analysis II	5.17 (4.99)
Summer 2014		
Math 2280	Introduction DEs	5.60 (5.04)
Math 5600	Survey Numerical Analysis	5.11 (5.04)
Fall 2014		
Math 1210-2	Calculus I	4.97 (5.03)
Math 1210-4	Calculus I	5.30 (5.03)
Spring 2015		
Math 1220-1	Calculus II	4.65 (5.03)
Math 1220-3	Calculus II	4.94 (5.03)
Summer 2015		
Math 2210	Calc III	5.31 (5.03)
Math 5600	Survey Numerical Analysis	4.33 (5.03)
Fall 2015		
Math 1220	Calculus II	5.13 (5.04)
Math 5610	Numerical Analysis I	4.67 (5.03)
Spring 2016		
Math 1310	Engineering Calculus I	5.45 (5.03)
Summer 2016		
Math 2280	DEs	5.53 (5.03)
Math 5600	Survey Numerical Analysis	5.44 (5.03)
Fall 2016		
Math 1320	Engineering Calculus II section 1	5.8 (5.03)
Math 1320	Engineering Calculus II section 4	5.17 (5.03)
Spring 2017		
Math 1210	Calculus 1 section 4	4.56 (5.06)
Math 1210	Calculus 1 section 16	5.38 (5.06)
Fall 2017		
Math 1210	Calculus 1 section 4	4.39 (5.06)
Math 3000	Undergraduate Colloquium	5.5 (5.06)
Math 5610	Numerical Analysis I	5.76 (5.06)
Spring 2018		
Math 1220	Calculus 2	5.27 (5.06)
Math 3000	Undergraduate Colloquium	5.71 (5.06)
Math 5620	Numerical Analysis II	5.33 (5.06)
Fall 2018		
Math 2210	Calculus 3	5.35 (5.06)
Math 3000	Undergraduate Colloquium	5.5 (5.06)
Math 5610	Numerical Analysis I	5.5 (5.06)
Spring 2019		

Math 2270	Intro Linear Algebra	5.41 (5.06)
Math 3000	Undergraduate Colloquium	5.67 (5.06)
Math 5620	Numerical Analysis I	5.50 (5.06)
Fall 2019		
Math 1310	Eng. Calc I	4.83 (5.16)
Math 2270	Intro Linear Algebra 3	5.11 (5.16)
Math 3000	Undergraduate Colloquium	5.43 (5.16)
Spring 2020		
Math 1320	Eng. Calc. II	5.00 (5.06)
Math 5600	Survey Numerical Analysis	5.55 (5.06)
Fall 2020		
Math 1220-03	Calc. II	4.96 (5.07)
Math 1220-90	Calc. II	5.36 (5.07)