

Gerard E. Keough
Department of Mathematics and Computer Science
Salisbury University, Salisbury MD 21801

■ Degrees Held

- 1979 **Ph.D.** Indiana University, Bloomington, IN 47405
major area: Analysis. minor area: Topology
Advisor: John B. Conway (currently Chair at George Washington University)
- 1972 **A.B.** Boston College, Chestnut Hill, MA 02467
majors: Mathematics, Philosophy
magna cum laude, Phi Beta Kappa

■ Academic Positions

- 2008 – Visiting Professor, Salisbury University
2008 *Associate Professor Emeritus, Boston College*
1984 – 2008 Associate Professor of Mathematics, Boston College
1979 – 1984 Assistant Professor of Mathematics, Boston College
1978 – 1979 Instructor of Mathematics, Boston College
1972 – 1978 Associate Instructor of Mathematics, Indiana University

■ Areas of Concentration and Interest

Operator Theory. Functional Analysis. C*-Algebras. Mathematics and Technology.

■ Published Books and Articles

- An Introduction to Analysis, Second Edition*, with Gerald G. Bilodeau and Paul R. Thie. (333 + xiii pages.)
Published by Jones and Bartlett Publishers July, 2009, as the inaugural text of J&B's International Series in Mathematics. ISBN-13: 978-0-7637-7492-9.
- Getting Started with Mathematica[®], Third Edition*, with C. K. Cheung, Charles K. Landraitis, and R. H. Gross.
Published by John Wiley and Sons, Inc., March, 2008 (224 + xiv pages, ISBN-13: 978-0-470-45687-3).
- Getting Started with Maple[®], Third Edition*, with C. K. Cheung, Michael May, and Douglas Meade. Published by John Wiley and Sons, Inc., July, 2008 (208 + x pages, ISBN-13: 978-0-470-45554-8).
- An Introduction to Linear Programming and Game Theory, Third Edition*, with Paul R. Thie. Published by John Wiley and Sons, Inc., July, 2008 (460 + xiv pages, ISBN-13: 978-0-470-23286-6).
- Getting Started with Mathematica[®], Second Edition*, with C. K. Cheung, Charles K. Landraitis, and R. H. Gross.
Published by John Wiley and Sons, Inc., February, 2005 (231 + xiii pages, ISBN: 0-471-47815-6).
- Getting Started with Maple[®], Second Edition*, with C. K. Cheung and Michael May. Published by John Wiley and Sons, Inc., May, 2003 (206 + x pages, ISBN: 0-471-47013-9).
- Getting Started with Maple[®]*, with C. K. Cheung and Michael May. Published by John Wiley and Sons, Inc., June, 1998 (172 + x pages, ISBN: 0-471-25249-2).
- Getting Started with Mathematica[®]*, with C. K. Cheung, Charles K. Landraitis, and R. H. Gross. Published by John Wiley and Sons, Inc., June, 1998 (182 + x pages, ISBN: 0-471-24050-8).
- Exploring Multivariable Calculus with Mathematica[®]*, a supplement to *Multivariable Calculus, Preliminary Edition*,

produced by the Calculus Consortium based at Harvard, with C. K. Cheung and Tim Murdoch. Published John Wiley and Sons, Inc., January, 1996 (234 pages, ISBN: 0-471-13754-5).

Exploring Multivariable Calculus with Maple[®], a supplement to *Multivariable Calculus, Preliminary Edition*, produced by the Calculus Consortium based at Harvard, with C. K. Cheung and Tim Murdoch. Published John Wiley and Sons, Inc., August, 1995 (228 pages, ISBN: 0-471-13753-7).

Using A Computer Algebra System with Mathematics Majors, in the Proceedings of the Fifth International Conference on the Use of Technology in Collegiate Mathematics, Rosemont, IL, November 12-15, 1992 (Addison-Wesley, 1994, 7 pages).

A Laboratory Exercise, *Discovery: Medians of a Triangle*, in *Exercises in the Use of a Computer Mathematics System*, August, 1993, published at Ithaca College by Seltzer and Ellison (this volume collects work of participants in an NSF-funded workshop of June, 1992).

Roots of Invertibly Weighted Shifts with Finite Defect, Proceedings of the American Mathematical Society, Volume 91, Number 3 (July 1984), pp. 399 – 404.

Subnormal Operators, Toeplitz Operators and Spectral Inclusion, Transactions of the American Mathematical Society, Volume 263, Number 1 (January 1981), pp. 125 – 135.

Subnormal Operators, Toeplitz Operators and The Spectral Inclusion Theorem, dissertation, Indiana University (1979). (An announcement of results appeared as *Subnormal Operators which Yield a Spectral Inclusion Theorem*, Notices of the American Mathematical Society, Volume 25, Number 4 (June, 1978)).

■ Other Publication Activities

Multivariable Calculus Using Mathematica[®], with C-K Cheung. (1997) Initially 400+ pages developed for publication by John Wiley (ISBN: 0-471-14135-6) ... but eventually not published. Twice used as the (sole) text for MT202 Multivariable Calculus at Boston College. (Material from this text was created in tandem with the development and publication of *Exploring Multivariable Calculus with Mathematica*[®] and subsequently incorporated into *Getting Started with Mathematica*[®].)

Using Mathematica[®], a.k.a. *Mathematica*[®] for Mathematics Majors, developed and used as the (sole) text for MT063/MT263 at Boston College from 1994 to 1998. Approximately 300+ pages. (Much of this text was later incorporated into *Getting Started with Mathematica*[®].)

■ Selected Professional Activities

- Software Developer for *LP Assistant* (©2007), a Java-based, platform-independent application used to support the teaching of Linear Programming.
- NSF-funded participant at “A Computer on Every Desk: Implications for Mathematics Courses,” sponsored by Ithaca College and NSF, Ithaca, NY, June 1 – 6, 1992.
- Software Developer of *PRT Simplex* (©1992), a Macintosh application used in the teaching of Linear Programming (Mt435) at Boston College (1991 – 2006).
- Software Developer of *Just Enough Assembler* (©1990), a Macintosh application used in the teaching of Assembly Language (Mt572/Mc260) at Boston College (1989 – 1991).
- Lead Scientist (consultant status), Department of Management Information and Computer Services, The MITRE Corporation, Bedford MA 01730 (1988 – 1992).

■ Selected University and Departmental Service (at Boston College)

Chair of the Mathematics Department (July, 2001 – June, 2007)

Program Director for Computer Science, College of Arts and Sciences, Boston College (1992 – 1995).

Member, Boston College Committee for Strategic Planning for Computing and Communications (1986 – 1995). Chair: Robert Newton, Associate AVP.
 Technical Representative to the Apple University Consortium for Boston College and Associate Editor for *Wheels for the Mind*, an AUC publication (1986 – 1990).
 Director, Boston College Faculty Microcomputer Resource Center (1985 – 1989).

■ Selected Presentations

- *Using Mathematica*, at Boston College Faculty Technology Week, May, 2002, and May, 2003.
- *Using A Computer Algebra System with Mathematics Majors*, at the Fifth International Conference on the Use of Technology in Collegiate Mathematics (ICTCM), Rosemont, IL, November 12-15, 1992 (member of a panel discussion on the results of the Ithaca Workshop mentioned earlier).
- “Tool Skills for Mathematics Majors,” at “A Conference on the Teaching of Calculus,” sponsored by the Calculus Consortium at Harvard, NSF and John Wiley & Sons, Inc., Cambridge, MA, June 12 – 13, 1992.
- “*Mathematica*[®]: Tool Skills for Mathematics Majors,” at “A Computer on Every Desk: Implications for Mathematics Courses,” sponsored by Ithaca College and NSF, Ithaca, NY, June 1 – 6, 1992.
- *Using Mathematica*[®] *in Calculus at Boston College*, at the “Mathematics and Technology Workshop,” sponsored by Addison-Wesley Publishing, Inc., at Boston College, Chestnut Hill, MA, April 4, 1992.
- “*Mathematica*[®]: A Mathematics’ Major’s Home Companion,” at MacAdemia ’91, sponsored by Apple Computer and the University of Pennsylvania, Philadelphia, PA, June 17–19, 1991.

■ Courses Taught

<i>Mathematics</i>	<i>Computer Science</i>
Normed Linear Spaces (graduate seminar)	Microcomputer Applications Development
Introduction to Wavelets Spaces (graduate seminar)	Design and Analysis of Algorithms
Measure and Integration (graduate)	Assembly Language (68000, 6502)
Advanced Linear Algebra and Operator Theory (graduate seminar)	Data Structures
Analysis I, II (graduate)	Introductory programming courses (C, Pascal, PL/I)
Complex Analysis I, II (graduate)	<i>Independent study courses</i>
Complex Analysis (undergraduate)	
Numerical Analysis	
Linear Programming and Game Theory	
Introduction to Analysis	
Discrete Mathematics	
Linear Algebra	
Algebraic Structures	
Calculus, all levels and formats, including large lectures, “reform” and “applied” curricula	
Mathematical Analysis and the Computer	
Introductory Statistics	
College Algebra	
<i>Independent study courses</i>	

■ Grants and Awards

Co-Principal Investigator (with C-K Cheung) on National Science Foundation (NSF) grant DUE #9651263, “Computer Laboratory Instruction in Multivariable Calculus (Phase II).” Grant awarded July 1, 1996 through June 30, 1998 in the amount of \$27,739.

Co-Author (with John Aversa, Manager, Information Processing Support) for Boston College’s 1990 application to Wolfram Research, Incorporated, for participation in the *Mathematica*[®] Educational Grant Program. Software totaling approximately \$8,000 and supplemental materials were received when the grant was awarded.

Instructional Research and Development Laboratory Grant, Boston College, 1990, for the development of materials and software to be used in *Mathematical Analysis and the Computer*. (Resulted in the local publication of materials for teaching *Mathematical Analysis and the Computer* with *Mathematica*[®]).

Summer Grant for Faculty Research, Boston College, 1981. (Resulted in publication of *Roots of Invertibly Weighted Shifts with Finite Defect*)