

**CURRICULUM VITAE**  
**OF**  
**LINDA DAWSON**  
**Senior Lecturer Emerita**

Retired  
University of Washington, Tacoma  
Interdisciplinary Arts and Sciences

email: lidawson@uw.edu

**EDUCATION**

BS, Engineering, Aeronautics and Astronautics, M.I.T.  
MS, Engineering, Aeronautics and Astronautics, George Washington University  
at NASA - Langley Research Center  
Graduate Studies in Phd Program, Aeronautics and Astronautics Engineering Dept., University of Washington,  
Seattle

**AUTHOR & HISTORIAN, SPACE SCIENCE AND TECHNOLOGY**

(1/15 – present)

Springer Publishing Co., NY

- *The Politics and Perils of Space Exploration*, 1<sup>st</sup> edition published 2017, 2<sup>nd</sup> edition published 2021.
- *War in Space - The Science and Technology Behind Our Next Theater of Conflict*, published 2018.

**FACULTY, INTERDISCIPLINARY ARTS AND SCIENCES**

(9/96 – 2017)

University of Washington  
Tacoma & Seattle, WA

**Teaching/Curriculum Development**

- Curriculum developed and taught include: Undergraduate Calculus Based Physics Series for Scientists and Engineers including labs, Physical Science Principles, Applied Physics, Rocket and Space Science for Educators, Math and Computers, Quantitative Math Reasoning, Statistics – Intermediate and Advanced, Quantitative Methods for Business, Calculus Applications, Inquiry and Methods of Research, Women in Science, the History and Science of Space Exploration.
- Initiated and developed a campus-wide Math Lab which was later incorporated into the Teaching and Learning, Center. The current tutoring center serves UWT students from all disciplines.
- Initiated and developed collaborative learning workshops that developed into linked course for science and math core courses that are quantitatively challenging.

**UW Committees/Duties/Service**

- Lecturer Affairs Committee Chair: ad-hoc committee to Faculty Assembly and intended to address campus-wide lecturer issues such as stability, service requirements, and workload.
- Faculty Assembly: appointed to Executive Council for the 2010-2014 academic years. Taken on the consolidation of lecturer concerns for the Council and Faculty Affairs.
- Committees: Campus Technology Committee 2000-current; Gift of Service Award Committee 2000, 2008; Teaching and Learning Roundtable 2003-current; Award Ceremony Committee 2007; Campus Safety Committee 2007-2010; Hiring Committees for several faculty hires – Psychology, Environmental Science: Biology, Microbiology, Environmental Chemistry, Ecology, Chemistry, Math, and Physics 2001-current.

- Collaborative Learning for math and science: chaired a committee to initiate supplemental instruction for quantitatively intense courses, starting with a pilot program in Spring, 2014. Currently coordinating the program with sections providing peer instruction for pre-calc, chemistry, and biology.

### Professional Service/Awards

- Awarded a full year sabbatical for the academic year 2014-15 - first lecturer at UWT to be granted a sabbatical. Focused project addressed collaborative learning and establishing learning communities for quantitatively challenging courses.
- Appointed to be a member of the Museum of Flight's Space Committee (2006-current). The committee is responsible for evaluating space artifacts for acquisition by the museum and the evaluation of exhibits and educational programs.
- Member of the Museum of Flight Educational Advisory Board (1999-2006).
- Member of the Northwest Engineering Technology Expansion Partnership (NW-ETEP) Community Advisory Board (2005-2007).
- Awarded the UW Brotman Award for Teaching Excellence as part of the Environmental Science Faculty (June, 2004).
- Nominated as Distinguished Faculty Member for the 2000-01 academic year.

### Research Grants/Contracts

- Awarded over fifteen contracts with higher education publishers to author educational support material, provide research studies written up as textbook examples, build a statistical module in Excel to analyze data, and author textbook supplements focused on statistics curriculum. Products include:
  - McGraw-Hill development map for writing algorithms for problem solutions (2012).
  - McGraw-Hill supplemental business statistics online learning development (Learnsmart) (2012).
  - Wiley textbook supplemental materials, using Excel to solve business statistics problems, student manual (2010-current).
  - Pearson textbook supplemental materials, solution manuals, instructor manuals, test banks (2006-current).
- Awarded a consultant position with the Tacoma Police Dept. to analyze racial profiling statistics, data collected in 2002. Final report completed July, 2003.
- Awarded grant money from two sources (Seed Technology Grant and Founder's Grant) to design and build computer interactive math modules to teach and test specific math skills via the internet or CD (1999).
- Initiated and developed a campus-wide Math Lab to be incorporated into the Teaching and Learning Center. The current tutoring center serves UWT students from all disciplines.

### Publications

- Springer Publishing Co., NY:
  - *The Politics and Perils of Space Exploration*, 1<sup>st</sup> edition published 2017, 2<sup>nd</sup> edition published 2021.
  - *War in Space - The Science and Technology Behind Our Next Theater of Conflict*, published 2018.
- Pearson Education Publisher, Boston:
  - Authored test bank for *Business Statistics*, 9<sup>th</sup> Edition by Groebner, 2016 and half of test bank *Introductory Statistics* 13<sup>th</sup> Edition, by Triola, 2016.
  - Authored Instructor and Student solution manuals and test bank for *Business Statistics*, 3<sup>rd</sup> Edition by Sharpe, De Veaux, Velleman, 2014 and updated volume, 2016.
  - Authored the Minitab Manual for the 3<sup>rd</sup> edition of Statistics by Agresti & Franklin, 2012.
  - Authored examples and exercises for the 3<sup>rd</sup> edition textbook *Statistics* by Agresti & Franklin, 2011.
  - Updated previously written Minitab statistical manual supplement for *Business Statistics* by Sharpe, De Veaux, and Velleman, 2011.
  - Authored the Minitab Manual for *Business Statistics* by Sharpe, De Veaux, and Velleman, 2010.
  - Authored Instructor and Student Solution Manuals to accompany the 1<sup>st</sup> edition of *Business Statistics* by Sharpe, De Veaux, and Velleman, 2009.
- McGraw-Hill Publisher, Chicago:

- Author several chapters of an online learning system (Learnsmart) for *Business Statistics* by Jaggia, awarded October, 2011 and completed March, 2012.
- McGraw-Hill Publisher, Chicago to beta-test online learning materials (Learnsmart) for the 1st edition, *Business Statistics: Communicating with Numbers* by Jaggia. Awarded April, 2012.
- Wiley, Inc. Publisher, New Jersey:
  - Authored the Excel manual to supplement *Understanding Business Statistics* by Ned Freed, 2013.
  - Authored the Excel manual to supplement the current edition of *Business Statistics* by Ken Black, 2011 and 2013.
- W.H. Freeman Publisher, New York:
  - Authored *The Enhanced Excel Manual for the Introduction to the Practice of Statistics* (Moore, McCabe), 2006.
  - Authored *The Enhanced Excel Manual for the Practice of Business Statistics*, 2005.
  - Authored the Excel statistical add-in module to accompany the *Practice of Business Statistics* (Moore, McCabe, Duckworth, and Sclove), details procedures and solutions to concepts described in the text. The programmed Excel Add-In module accompanies the text on CD-ROM, 2005.
- **Racial Profiling Data Collection Study Final Report**, completed July, 2003.
  - Resulting from work as a consultant with the Tacoma Police Dept. and member of the Racial Profiling Task Force to analyze the statistics of police stops, collected throughout 2002.

#### Talks/Papers/Presentations

- Keynote speaker for Yuri Gagarin Day at the Museum of Flight, April 15, 2107. Followed by a book signing for *The Politics and Perils of Space Exploration*.
- Speaker and book signing at the UWT bookstore, April, 2017.
- Attended a Learning Community Program at Oregon State University in May, 2016.
- Invited by Pearson Publisher for writer symposium in Boston, MA (March, 2013).
- Invited by McGraw Hill Publisher to an MIS Symposium in Austin, TX to give a presentation on using case studies in the classroom as a teaching tool (October 2006).

#### PREVIOUS EMPLOYMENT:

##### **MATH AND COMPUTER SCIENCE INSTRUCTOR**

University of Puget Sound - Mathematics & Computer Science Dept. (8/92 - 5/93)

Tacoma, WA

Highline Community College (10/91 – 1/99)

Continuing Education Center, Federal Way, WA

- Instructor and developer of computer application software curriculum.
- Specialized developer and instructor for the Senior Citizen, Women's Program, and customized business classes for the community.

##### **ENGINEERING GRADUATE STUDENT**

(6/90 - 10/91)

University of Washington

Seattle, WA

- Full-time Phd student in Aerospace Engineering.
- Women in Engineering Program Research Associate, and Mentoring Chair. Duties included recruiting industry mentors and matching with women engineering students, compiling a mentoring handbook, and counseling students.
- Part-time Lecturer of Engineering core courses, including Statics, FORTRAN, and Thermodynamics.

##### **ENGINEERING INSTRUCTOR**

(9/88 - 6/90)

Green River Community College

Auburn, Washington

- Responsible for teaching a variety of pre-engineering core courses, including Statics, Dynamics, Engineering Graphics, Material Science, Engineering Problems and Orientation.
- Actively involved with curriculum development to update and expand existing materials and develop a more interactive teaching approach.
- Participated in other tenure track activities, including committee work and advising. Served on a Multicultural Task Force with focus on minority student retention issues. Site coordinator for the "Expanding Your Horizons" conference, which exposes young women to math and science careers.

**FACULTY COUNSELOR**

(Summer, 1989)

NASA Space Life Sciences Training Program  
Kennedy Space Center, Florida

- Six week college level course sponsored by NASA and Florida A & M University. Assisted students and scientists in the planning and execution of space flight experiments that were of interest to NASA. Specialized in the CELSS Project (Controlled Ecological Life Support System).

**SENIOR SYSTEM SPECIALIST ENGINEER**

(1/82 - 5/87)

Boeing Aerospace Company  
Kent, Washington

- Responsible for requirements definition of air defense systems, military workstations, space plane concepts and space defense interceptors.
- Lead engineer in the development of a communications network simulation using interactive graphic displays.
- Instrumental in organizing a team of engineers in designing communications testbed displays and controls, including their hardware and software requirements.
- Developed system requirements, the coordination of support disciplines, and the definition of system level trade studies for a variety of government projects.
- Initially involved in evaluating guidance and navigation concepts for new proposals & technical studies on advanced missile concepts and space defense systems.

**AERODYNAMIC FLIGHT CONTROLLER**

(8/77 - 11/81)

NASA - Johnson Space Center  
Houston, Texas

- Served as Aerodynamics Officer for the Mission Control Center Ascent and Entry Flight Control Teams during the first Space Shuttle mission. During orbit phases, served as an advisor of the impact of system failures on the orbiter's re-entry trajectory and configuration. From re-entry through touchdown, was responsible for monitoring the orbiter's stability and control, advising the crew of any necessary corrective actions.
- Developed the entry fuel budget for the first two Space Shuttle flights. Involved with assimilating aerodynamic, trajectory and propulsion data which affect orbiter fuel consumption from de-orbit through subsonic flight. Planned and conducted two extensive real-time flight engineering simulations which led to the establishment of the fuel redline.
- Performed simulation studies to develop crew procedures for anomalous entry conditions and assess system failure impacts. Developed mission rules and Mission Control Center requirements for real-time simulation and mission support.

**RESEARCH SCHOLAR ASSISTANT**

NASA - Langley Research Center  
Hampton, Virginia

- Conducted "An Analytical Investigation of the Feasibility of Estimating Aerodynamic Coefficients Using a Free-Flight Model Technique" (thesis research). Involved the comparison of aerodynamic derivatives extracted from flight test data with those extracted from a model free flying in a full-scale wind tunnel.
- Also, investigated the stall/spin characteristics of fighter aircraft and possible flight control modifications to maintain a safe flight profile.