

William J. Bender PhD, PE, LEED AP
Curriculum Vitae 5/2020

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Position

Professor
Department of Construction Management
University of Washington

Education

BSCE 1981 Washington State University
MSCE 1989 Oregon State University
PhD 2000 University of Maryland

Professional Experience

Central Washington University 1998-2014
Associate Dean, College of Education and Professional Studies 2011-2013
Engineering Technologies, Safety, and Construction Department Chair 2004-2009, and 2012
Regular member of the Graduate Faculty
Construction management consultant 2000- Present
Builder & construction manager for US Navy, instructor Naval Academy 1981-1998.

Recent Courses Taught

Autumn 2020	Winter 2020	Spring 2020
CM 449 Plan Reading and Estimating	CM 588 Construction Productivity and Operations	CM 431 Project Management II
CM 413 Competitive Presentations		CM 335 Sustainable Construction
		CM 421 Project Management

Refereed Publications

Pilot Study for Understanding a Contributing Factor for a Decrease in Skilled Construction Labor, Brent Buckner and William Bender, refereed paper for the **Associated Schools of Construction Proceedings 2020**. Annual Proceedings of the 56th Meeting of the Associated Schools of Construction April 2020.

A Model for Collecting Replacement Cycles of Building Components: A Hybrid Approach of Indirect and Direct Estimations, Jonghyeob Kim, Ph.D.; Hyun Woo Lee, Ph.D.; William Bender, Ph.D.; Chang Taek Hyun, Ph.D. **ASCE Journal of Computing in Civil Engineering**, May 2018.

“*In Situ Measurement of Wind Pressure on Pedestal Solar Panels*”, D. Reed, W. Bender, D. Waytuck, S. Wang, **Journal of Engineering Structures**, December 2017.

“Predictors for Construction Management Student Success” Y. Kim and W. Bender, refereed paper for the **Associated Schools of Construction Proceedings 2017**. Annual Proceedings of the 53th Meeting of the Associated Schools of Construction April 2017.

“*Integrated Project Delivery Games for the Classroom*” D. Martin, P. W. Plugge, and W. Bender, refereed paper for the **Associated Schools of Construction Proceedings 2014**. Annual Proceedings of the 50th Meeting of the Associated Schools of Construction April 2014.

“*Construction Safety Laboratory*” S. Rajendran, P. W. Plugge, and W. Bender, refereed paper for the **Associated Schools of Construction Proceedings 2014**. Annual Proceedings of the 50th Meeting of the Associated Schools of Construction April 2014.

“*Sustainable Design That Succeeds*” W. J. Bender, P.W. Plugge and M.W. Whelan, refereed paper for the **Associated Schools of Construction Proceedings 2014**. Annual Proceedings of the 49th Meeting of the Associated Schools of Construction April 2014.

“*Educational Operations Four Days a Week*” Pringle, C. and W. J. Bender, refereed paper for the **American Society of Engineering Educators Annual Conference 2010**. June 2010

“*Sustainable Design Strategies That Succeed*” K. Bicchieri and W. J. Bender. refereed paper for the **Associated Schools of Construction Proceedings 2009**. Annual Proceedings of the 44rd Meeting of the Associated Schools of Construction April 2009

“*Construction of a Wind Farm and Case Study*” W. J. Bender and D. Carns. refereed paper for the **Associated Schools of Construction Proceedings 2008**. Annual Proceedings of the 43rd Meeting of the Associated Schools of Construction April 2008

“*Teaching Leadership*” W. J. Bender and B. Bain. refereed paper for the **Associated Schools of Construction Proceedings 2006**. Annual Proceedings of the 41st Meeting of the Associated Schools of Construction April 2006.

“*Risk Assessment for Construction Clients*” Paper for the **Association for the Advancement of Cost Engineering International Proceedings 2004**, Washington DC, June 2004.

“*Construction Estimating*” W. J. Bender. refereed paper published in the **Associated Schools of Construction Proceedings 2004**.

“*Case Study of Construction Project Delivery Types*” W.J. Bender. refereed paper published in **Construction Research Congress Proceedings** March 2003.

“*Constructors Qualification Exam Preparation Course*” D. Carns and W. J. Bender. A refereed paper for the **Associated Schools of Construction Proceedings 2002. Annual Proceedings of the 38th Meeting of the Associated Schools of Construction** April 2002.

“*Team Building in Construction*” W. J. Bender and D. Septelka. **Association for the Advancement of Cost Engineering International Proceedings 2002**, June 2002.

“*Risk-based Cost Control for Construction*” W. J. Bender and B. M. Ayyub. A Paper for the **Association for the Advancement Of Cost Engineering International Proceedings 2001**, Pittsburgh, PA, June 2001.

“*Mobile Offshore Base Construction Feasibility*” W.J. Bender and B.M. Ayyub, **Journal of Offshore and Petroleum Engineers**. Paper is published in the proceedings and was presented at the International Society of Offshore and Petroleum Engineers conference in Seattle, May 2000.

“*Fuzzy Stochastic Risk-Based Decision Analysis: MOB Case Study*” A. N. Blair, B.M. Ayyub, and W.J. Bender, **Marine Structures Journal**, by the Society of Naval and Marine Engineers, October 2000.

“*Risk-based Simulation Models for the Construction of the Mobile Offshore Base*” W.J. Bender, B.M. Ayyub, and A. N. Blair, published in **The Journal of Ship Production**, by the Society of Naval and Marine Engineers.

Grant work

Dozens of grants from \$1000 to \$100,000 to internal and external organizations for equipment, salary, and materials. Projects ranged from consumables for laboratory use to renewable energy platforms. For example: Approximately \$1000 of electrical materials for an electrical construction class and approximately \$100,000 to build and install 28 kW PV solar energy project.

Office of Naval Research, \$200k, 1998, “Construction of an Offshore Mobile Base”

Selected Published Works That Contribute to the Profession

“*Hogue Technology Building Solar Photovoltaic System*” research project presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, May 2013.

“*Daily Observation Reports Save Costs*” Paper for the **Association for the Advancement of Cost Engineering International Proceedings 2006**, Las Vegas, NV, June 2006.

“*Timberline Estimating Lab Exercises*” W. J. Bender and D. Septelka. Exercises for Construction Management educators to use in their Timberline estimating classes. Published by the Timberline Software Co., Portland OR, June 2001.

“Assessment of the Construction Feasibility of the Mobile Offshore Base, Part I Risk Informed Assessment Methodology” January 1999 with Bilal M. Ayyub and Andrew N. Blair, University of Maryland. This 35-page report is a contract deliverable for the Office of Naval Research (ONR). It introduces the topic of risk analysis and describes the methodology that will be applied to assess the construction feasibility of the MOB.

“Assessment of the Construction Feasibility of the Mobile Offshore Base, Part II Construction Systems” May 1999 with Bilal M. Ayyub and Andrew N. Blair, University of Maryland. This 72-page report for ONR estimated and scheduled five potential MOB concepts. Additionally the US capacity to build a MOB was documented and potential risk areas were identified.

“Assessment of the Construction Feasibility of the Mobile Offshore Base, Part III Risk Analysis” July 1999 with Bilal M. Ayyub and Andrew N. Blair, University of Maryland. This 119-page report for ONR performed a construction risk analysis using simulation, decision tree analysis and fuzzy techniques.

“Assessment of the Construction Feasibility of the Mobile Offshore Base, Part IV Constructability Guidelines” September 1999 with Bilal M. Ayyub, University of Maryland. This 55-page report for ONR developed construction guidelines to efficiently build a MOB.

“Assessment of the Construction Feasibility of the Mobile Offshore Base, Part V Special Construction Methods and Weather Risk Analysis” April 2000 with Bilal M. Ayyub, and Andrew N. Blair, University of Maryland. This 95-page report for ONR developed a novel construction method to build a MOB and used risk methods to assess weather impacts to a long term construction window.

Selected Articles in Non-refereed Journals

“Simulation and Modeling of the Construction of a Mobile Offshore Base” M. K. Cybulsky, R. L. Currie, W.J. Bender, A. N. Blair, and B.M. Ayyub, Proceedings of the United States and Japan Cooperative Program for Natural Resources, May 2000.

“Fuzzy Stochastic Risk Assessment for Mobile Offshore Base Construction”, W. J. Bender, B. M. Ayyub and A. N. Blair, Proceedings of the Very Large Ocean Structures Conference, September 1999.

Selected Presentations:

“Sustainability Education” Presentation and session organizer for Conference on Education and Research in Construction, University of Washington, March 2016.

“Full Scale Measurement of Wind Loadings on Solar Panels” W. Bender, M. Morrison, D. Reed, Presentation at **12th Americas Conference on Wind Engineering**, Seattle, WA June 2013.

Active Learning in the Project Management Topics of Collaboration, Negotiation, and Lean Construction D. Martin, P. W. Plugge, and W. Bender. **Construction Industry Research Conference** University of Washington, Seattle, WA Spring 2013.

“Risk Management Using Risk Management Tables” Presentation/ Professional Development Session, **AGC 93rd Annual Convention** March 2011

“*Switched Duplex Socket and Three Way Light Laboratories*” W. Bender, **Construction Industry Research Conference** University of Washington, Seattle, WA Fall 2011.

“*Aviation, Construction and Engineering Academy*” Poster Session **College of Education and Professional Studies Professional Colloquium**, Fall 2004, Ellensburg, WA

“*Risk Assessment for Construction Clients*” Annual meeting of the **Association for the Advancement of Cost Engineering International 2004**, Washington DC, June 2004.

“Construction Estimating” W. J. Bender. Annual conference for the **Associated Schools of Construction 2004**, Provo UT 2004.

“*Case Study of Construction Project Delivery Types*” W.J. Bender. **Construction Research Congress**, Honolulu, HI, March 2003.

“*Team Building in Construction*” W. J. Bender and D. Septelka. Presented at the **Association for the Advancement of Cost Engineering International Annual Meeting**, in Portland OR, June 2002.

“*Timberline Estimating Lab Exercises*” Presented as part of a panel discussion at the **Timberline Educator Conference**, Portland OR, June 2001.

“Timberline Estimating Lab Take Home Exam” Panel member and delivered working paper to the **Timberline Educators Conference** Portland, OR, June 2000.

Selected Examples of Other Scholarly Work

Blueprint reading and project management classes for AGC of Washington in Eastern Washington 2010.

LEED for Contractors taught daylong seminar for Associated General Contractors in Seattle, July 2009.

“Risk based Cost Control Seminar” Developed and seminar provider for a two day seminar presented at the Association for the Advancement of Cost Engineering International, Las Vegas NV, June 2006.

“Time Lapse Digital Photography Applied to Steel Construction of the Music Facility” T. Tabert and W. Bender research project presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, May 2003.

Leadership seminars for the Association of General Contractor given in Yakima and Wenatchee, WA January 2001.

“Study of efficient air flow in HVAC Ducts” C. Lang and W. Bender research project presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, May 2000.

Credentials

Professional Engineer, Civil, Washington State

Leadership in Energy and Environmental Design Accredited Professional (LEED AP) BC+D

Certified Trainer Timberline Estimating software

Selected Institutional and Professional Service in the Last Five Years

Fund Raising efforts resulted in over \$1 million in donations

ACCE accreditation Quality Improvement Plan and Student Learning Outcome based plan

Faculty Advisor, Construction Management Honor Society, AY 2014/15 to present

Associated General Contractors of WA Board of Trustees member, AY 2015/16 to present

Committees: Faculty Senate Planning and Budget 2016/17 to present, Faculty Senate Chair

Cabinet 2015/16, College Endowment Award Committee, Search Committee Chair

ASC Region VII Assistant Regional Director, National Conference host 2017

Coach and logistics provider for seven student competition teams per academic year 2014/15 to present

Memberships

American Society of Civil Engineers

Society of American Military Engineers