

KENNETH L. WITCHER, Ph.D.

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PROFESSIONAL EXPERIENCE

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY (ERAU)

2004-PRESENT

DEAN, COLLEGE OF AERONAUTICS

2013 - PRESENT

ERAU WORLDWIDE

- Leads 44 full time faculty, three administrators, and 700+ active adjunct faculty assigned to one of three departments delivering 19 programs servicing 14,000+ students at 120 locations around the world.
- College produced 1,945 graduates in AY 16-17.
- Successfully introduced five new undergraduate and five new graduate degrees.
- College introduced International Journal of Aviation, Aeronautics, and Aerospace in 2014; currently, 25,548 unduplicated document views, 18,128 downloads; 10% of authors are international.
- Successfully introduced two new learning environments; Virtual Crash Lab; Aerial Robotics Virtual Lab.
- Launched five Massive Open Online Courses (MOOC) resulting in 19K+ enrollments in first two years.
- Gained Aviation Accreditation Board International (AABI) accreditation for Bachelors of Science in Aeronautics; first degree AABI accredited delivered by synchronous and asynchronous modalities.
- College recognized as ERAU Worldwide's *Models of Innovation* Latitude Award winner in 2014.

PROGRAM CHAIR, MASTER OF AERONAUTICAL SCIENCE

2010 - 2013

ERAU WORLDWIDE

- Managed ERAU's largest graduate degree program with 4,915 enrollments and 1,284 degrees conferred (Academic Year [AY] 11-12).
- Developed and gained approval for Unmanned Aerospace Systems specialization.
- Implemented updated graduate capstone course allowing for direct assessment of students attainment of program outcomes.
- Active member of the ERAU Worldwide Campus Faculty Senate.

PROGRAM CHAIR, BACHELOR OF SCIENCE IN AVIATION MAINTENANCE

2009 – 2010

ERAU WORLDWIDE

- Managed degree program with 222 enrollments and 26 degrees conferred (AY 09-10).
- Guided program through academic review process resulting in no recommendations for improvement.

DIRECTOR OF ACADEMICS

2007 – 2009

ERAU WORLDWIDE; LAS VEGAS CAMPUS – LAS VEGAS, NV

- Lead 20 adjunct faculty members meeting the academic needs of the Las Vegas campus.
- Ensured academic quality within the local classrooms and among assigned faculty.
- Coordinated closely with campus staff to ensure seamless execution of the teaching schedule meeting the students' needs.
- Coordinated with Regional staff and Worldwide Headquarters to ensure availability of necessary resources and report campus performance.

ADJUNCT FACULTY MEMBER

2004 – 2007

ERAU WORLDWIDE; LAS VEGAS CAMPUS – LAS VEGAS, NV

- Cleared to teach 19 courses within the topic areas of aviation operations, safety, maintenance, research, and faculty development.
- Qualified to teach in all approved delivery modalities.
- Participated in initial pilot study of EagleVision.
- Las Vegas campus Adjunct Faculty Member of the Year 2006.

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UNITED STATES AIR FORCE**1989-2009****SUPERINTENDENT, 422D TEST AND EVALUATION SQUADRON****2007-2009****NELLIS AIR FORCE BASE – LAS VEGAS, NV**

- Lead 26 Airmen across 7 specializations supporting the Air Force's largest fighter aircraft squadron.
- Developed and implemented long-range logistics plans ensuring aircraft availability required to support Air Force test projects.
- Oversaw 53d Wing annual flying hour program valued over \$67 million and executed at 13 locations within the continental United States.
- Monitored status of 12 different aircraft types flown by 5 squadrons and 4 detachments assigned to the 53d Test and Evaluation Group.

DETACHMENT CHIEF / PROPULSION INSTRUCTOR**2003 – 2007****372 TRS, NELLIS AIR FORCE BASE – LAS VEGAS, NV**

- Lead 41 aircraft maintenance instructors across 13 specializations providing priority maintenance training on 149 aircraft worth \$5 billion.
- Lead team providing academic and practical instruction on A-10, F-15, F-16, F-22, HH-60, MQ-1 aircraft.
- Managed 40K square foot facility with 25 classrooms and aircraft training equipment valued at over \$100 million.

SUPERINTENDENT, FIRST TERM AIRMAN CENTER**2001 – 2003****NELLIS AIR FORCE BASE – LAS VEGAS, NV**

- Human Resource position responsible for day-to-day operations of the First Term Airman Center.
- Coordinated with base staff agencies and units to develop event and training schedules.
- Transitioned first duty station airmen from a training to mission oriented environment.

AEROSPACE PROPULSION CRAFTSMAN**1999 – 2001****NELLIS AIR FORCE BASE – LAS VEGAS, NV**

- Maintained Pratt & Whitney F100-220 and 229 engines at the organizational level.
- Responsible for scheduled and unscheduled maintenance on assigned F-16 aircraft.
- Supervised and performed upgrade training for subordinates.

TEAM MEMBER, USAF THUNDERBIRDS**1996 – 1999****AIR DEMONSTRATION SQUADRON – LAS VEGAS, NV**

- Maintained 13 F-100-PW-220 turbofan jet engines for 11 F-16 aircraft valued at \$286 million.
- Traveled 200+ days annually to support *Thunderbird* mission and Air Force recruiting/retention programs.

JET ENGINE JOURNEYMAN**1989 – 1996****LUKE AIR FORCE BASE / BITBURG AIR BASE – PHOENIX, AZ / BITBURG, GERMANY**

- Accomplished scheduled and unscheduled maintenance including engine tear down, minor repair, inspection, and build-up on turbofan engines and systems.

EDUCATION

Doctor of Philosophy in Business Administration; Aviation Science Concentration

Northcentral University ~ Prescott Valley, AZ

Master of Aeronautical Science: Operations Specialization

Embry-Riddle Aeronautical University ~ Daytona Beach, FL

Bachelor of Science in Business Administration

University of Phoenix ~ Phoenix, AZ

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ASSOCIATIONS

Aviation Accreditation Board International
University Aviation Association
Women in Aviation Association
USAF Thunderbirds Alumni Association
Air Force Association

AWARDS

Faculty Member of the Year; 2012 Latitude Award, ERAU Worldwide
Squadron Senior Non Commissioned Officer of the year; 2008
Michael Collins Award recipient (peer selected); 2005 & 2006
Technical Instructor of the year "Top Tech"; 2006
Squadron Non Commissioned Officer of the year; 2002
Squadron Maintenance Specialist of the year; 1999
Squadron Maintenance Professional of the year; 1990, 1991, & 1994
Wing Maintenance Professional of the year; 1991 & 1994
Squadron Airman of the year; 1991 & 1995

RESEARCH

PUBLICATIONS

- McAndrew, I. R, Navarro, E. & Witcher, K (2017), Propeller Design Requirements for Quadcopters Utilizing Variable Pitch Propellers, *International journal of materials, mechatronics and manufacturing*, Volume 6, Number 1. P. 51-56.
- McAndrew, I. R., Witcher, K. & Navarro, E (2016). Glide effects on low speed unmanned aerial vehicles with ice formation, *Int. Journal of Information Technology & Mechanical Engineering - IIITME*, Vol.2 Issue. 2, February- 2016, pg. 1-13 ISSN: 2349-2865.
- McAndrew, I. , Witcher, K. , Navarro, E. (2016). Aerodynamic effects of ice and its influences on flight characteristics of low speed unmanned aerial vehicles'. *World Academy of Science, Engineering and Technology, International Science Index, Mechanical and Mechatronics Engineering*, 2(1), 1338.
- McAndrew, I.R., Navarro, E. & Witcher, K (2015). Drogue deflections in low speed unmanned aerial refueling, *International Journal of Research in Aeronautical Engineering & Mechanical Engineering*, IJRAME (Vol. 3 No. 1).
- McAndrew, I. R., Witcher, K. & Navarro, E. (2015). Unmanned aerial vehicle material selection and its influence on drag at low speed, *International Journal of Unmanned Systems Engineering*, 2nd World Congress on Unmanned Systems Engineering, Granada, Spain, 30th -31st July
- Terwilliger, B., Sanders, B., Witcher, K., Leary, M., Ohman, J., & Tucker, C. (2015). Design of an educational tool for unmanned air vehicle design and analysis (paper no. 15086). Paper presented at the Interservice/Industry Training, Simulation, and Education Conference 2015, Orlando, FL [in press December 2015].
- Terwilliger, B. Vincenzi, D., Ison, D., Witcher, K., Thirtyacre, D., & Khalid, A. (2014). Influencing factors for use of unmanned aerial systems in support of aviation accident and emergency response. *Journal of Automation and Control Engineering*. doi:10.12720/joace [in press, August 2014]

- McAndrew, I., & Witcher, K. (2013). Design considerations and requirements for in-flight refueling of unmanned vehicles. *Journal of Aeronautics & Aerospace Engineering*. doi:10.4172/2168-9792.1000108
- McMullen, S.A.H., McMullen, M.J., Witcher, K.L., & Fiske, B.D. (2013). Exploring current and projected skills and knowledge areas to meet U.S. commercial space industry needs. Paper presented at the *American Institute of Aeronautics and Astronautics 2012 SPACE Conference and Exposition*, San Diego, CA.

RESEARCH GRANTS AWARDED/PROPOSED

- PI; USTDA-Airline Operations Training in for EMDT (2015). American Chamber of Commerce in China Fund. Funded amount; \$11,599
- Co-PI; Worrells, D. S., Witcher, K., Ison, D., & Terwilliger, B. (2013). Integrating unmanned aircraft systems into airport master plans. Daytona Beach Florida: Embry-Riddle Aeronautical University. Funded amount; \$12,800.
- PI; Blending Multiple Delivery Modalities to Support Learning (2012). National Science Foundation. Unfunded.
- Co-PI; Developing and Managing 21st Century Aerospace Clusters (2012). \$92,500. (unfunded)
- PI; An International Collaboration to Explore Valuation, Acquisition and Tactical Applications of Small Unmanned Aircraft Systems (UAS) by Law Enforcement in Support of Homeland Security (2011). DHS Grant. \$398,141. (unfunded)
- PI; Crossing the Gap between Vision and Execution (2010); Department of Aeronautics Worldwide Campus. Unfunded.

DISSERTATION

- Witcher, K. (2013). *Analyzing metropolitan area measures as enplanement growth predictors for United States large hub airports*. ISBN 9781303078965

DISSERTATION/CAPSTONE COURSES; 2010 – PRESENT

- Committee member for Ph.D. in Aviation student
- Served as Chair for 239 Master of Aeronautical Science Capstone Projects

REVIEWER

- International Conference on Mechanical and Aerospace Engineering

KEYNOTE SPEAKER

- IDEX Defense Conference and Exhibition; Dubai UAE (2015)
- International Conference on Mechanical and Aerospace Engineering; Madrid Spain (2014)
- Governor's Conference on Small Business; Las Vegas Nevada (2014)

RESEARCH INTEREST

- UAS operational growth
- Airport Development
- Aerospace workforce development
- Commercial space operational development

SERVICE

CHAIR, NEVADA'S AEROSPACE AND DEFENSE SECTOR COUNCIL (2012-2015)**NEVADA DEPARTMENT OF EMPLOYMENT, TRAINING, AND REHABILITATION – LAS VEGAS, NV**

- Brought together decision makers from business, government, education, labor, and industry professional groups, to identify and address the delivery of industry-specific training and workforce development initiatives in support of the economic developmental goals of the state.

GOVERNOR SANDOVAL'S NEVADA DEFENSE STEERING COMMITTEE MEMBER (2012-2015)

GOVERNOR'S OFFICE OF ECONOMIC DEVELOPMENT – LAS VEGAS, NV

- Assisted the state with positioning itself as a UAS center of excellence for both defense and civil applications.

ADVISORY BOARD COMMITTEES

- International Conference on Mechanical and Aerospace Engineering (2013-2016)
- Global Aerospace Summit (2015)
- Ashford University BA Operations Management and Analysis Program; external program reviewer (2014)

FACULTY SENATE SERVICE (2009-2013)

- ERAU Worldwide Faculty Senate Representative
 - Chair, Undergraduate Curriculum Committee
 - Member, Senate Technology Committee
 - Member, EagleVision Oversight Committee
 - Member, Blackboard Oversight Group
 - Member, Shared Governance ad-hoc committee