Dr. James W. Davidson **j_d411@txstate.edu** **832-266-8780**
Asst. Professor of Practice **Texas State University Ingram School of Engr.**

Education

Ph.D.	Engineering Structures, Dynamics & Materials	U.C.L.A.	1974
M.Sc.	Engineering Structures, Dynamics & Materials	U.C.L.A.	1969
B.Sc.	Engineering Structures & Mechanics	U.C.L.A.	1966
A.A.	Engineering	Santa Monica CC	1964

Academic Experience

Texas State University	Assistant Professor of Practice	Aug. 2023 - Present
Texas State University	Lecturer	Aug. 2019 – Aug. 2023
Texas State University	Adjunct Professor	Jan. 2016 - Jun. 2019

Non-Academic Experience

Management & Technology Consultant **1995 – Present**

- EDM International, Composite Materials Technology/Newmark, Corrosion Controllers, PowerTrusion, U.S. Mergers & Acquisitions, Ameron International/National Oilwell Varco, Lucintel and others. Gave national and international lectures and seminars on composite pipe and poles.

Ameron International/NOV **2006 – 2012**
Product Manager -

- Created a new product line of FRP utility poles called uPoles and Developed the market. Earned a patent on the uPole manufacturing materials and processes.

Sargent Industries/Airtomic
Director of Engineering, Quality, and New Product Development **2004-2006**

- Responsible for the strategy and operational aspects of technology and manufacturing development, product application and commercialization as well as the quality activity.

Shakespeare Composite Products **1995-2004**
Sr. Vice President of Technology

- Responsible for the commercialization of new products from each major manufacturing process. Re-engineered process equipment to improve quality and increase production out-puts. Developed state-of-the-art computerized controls for composite filament winding, pultrusion, and coating processes.

ODESSA ENGINEERING **1993 - 1995**
Chief Operating Officer

- Turned a $5.0 million computer and systems business around from a significant loss to solid profit, with a sales increase to $8.3 million. Instituted new technical project management systems, financial controls and a new MRP system as a first major step. Restructured the organization to provide for the increased sales with no growth in headcount.

CIBA-GEIGY COMPOSITES DIVISION **1990 - 1993**
Vice-President, General Manager
Vice-President, World-Wide Technology and New Ventures

- Increased sales from $53 million to $65 million in two years in a multi-plant mixed product operation (Anaheim, CA - Miami, FL - Bellingham, WA). Improved bottom line by $8 million.
- Led the implementation of a Total Quality Management approach achieving the highest Malcolm-Baldrige related scores in the composite materials industry as well as swift approval to Boeing's D1-9000 quality standard at multiple plant sites.
- Responsible for the prioritization, organization and conduct of world-wide R&D projects between six divisions. Led a staff of technical managers, chemists, engineers and technicians in the development of key new resin based materials, processes and products for future business.
- Provided overall leadership in the development of floor panels, fiberglass and carbon prepregs for windmill blades, bicycles, aerospace and building components, radomes and sporting goods, as well as honeycomb and weaving technology, and a wide variety of other commercial and industrial composite components.

CTEC/CFAN & ROHR INDUSTRIES **1985-1990**
President - CTEC

- Set up a joint venture startup manufacturing company between GE and Rohr called CTEC (Composite Technology Engine Components…now named CFAN) to serve the international gas turbine engine community, having full technical and P&L responsibility.
- Created and staffed the high technology team-based organization at all levels. Plant now at 700 people.

Director of Engine Components - Rohr

- Led a technology development organization in a business segment for Rohr Industries in composite and metal gas turbine engine components as an entry into this $500 million business that includes customers such as GE, Pratt & Whitney, Rolls-Royce, SNECMA, Allison, and Garrett.

HITCO FABRICATED COMPOSITES **1980 - 1985**
Director, Research and Development

- Managed a staff of 90 scientists, engineers and technicians, some of which were involved in limited production of fabricated products and pre-impregnated composite fabric materials.
- Developed new processes and products in most forms of advanced composite materials using fiberglass, quartz and carbon fiber reinforcements.
- Processes included fiber heat treatment, weaving, wet winding, prepregging, RTM and RIM, state of the art tooling techniques, machining, and material and product inspection and testing.

AMERON International **1970-1980**
Manager of Special Projects

- Worked under the V.P. of Engineering to develop composite filament winding and molding processes, coating processes, machinery and tooling, and precision machining operations.
- Created new business opportunities in the industrial products sectors related to steel and concrete poles, concrete and fiberglass piping, coatings, and construction products.

- Developed financial models for business investment and program management models for project control.

NORTH AMERICAN ROCKWELL **1966-1970**
Stress Analysis Engineer

- Co-Author of the "Structural Design Guide for Advanced Composite Applications" for the Advanced Composites Division of the Air Force Materials Laboratory, Air Force Command, Wright-Patterson Air Force Base, Ohio
- Worked on further structural enhancement of the X-15 rocket plane and Apollo program capsule heat shields.

TX State Courses Taught by Dr. James Davidson

SPRING 2026 – Asst. Prof. of Practice
ENGR 2300.252 Engineering Materials
ENGR 2300.253 Engineering Materials
MFGE 4391.251 Senior Design 2
MFGE 4391.L01 Senior Design 2 Lab

FALL 2025 – Asst. Prof. of Practice
ENGR 2300.002 Engineering Materials
ENGR 2300.003 Engineering Materials
MFGE 4390.001 Senior Design 1
MFGE 4390.L01 Senior Design 1 La

SPRING 2025 – Asst. Prof. of Practice
ENGR 2300.252 Engineering Materials
ENGR 2300.253 Engineering Materials
MFGE 4391.251 Senior Design 2
MFGE 4391.L01 Senior Design 2 Lab

FALL 2024 – Asst. Prof. of Practice
ENGR 2300.002 Engineering Materials
ENGR 2300.003 Engineering Materials
MFGE 4391.001 Senior Design 1
MFGE 4391.L01 Senior Design 1 Lab

SPRING 2024 – Asst. Prof. of Practice
ENGR 2300.252 Engineering Materials
ENGR 2300.253 Engineering Materials
MFGE 4391.251 Senior Design 2
MFGE 4391.L01 Senior Design 2 Lab

FALL 2023 - Lecturer
ENGR 2301.001 Statics
ENGR 2301.002 Statics
ENGR 2301.003 Statics
ENGR 2301.004 Statics

SPRING 2023 – Lecturer
ENGR 2301.251 Statics
ENGR 2301.252 Statics
ENGR 2301.253 Statics
ENGR 3311.253 Mechanics of Materials

FALL 2022 - Lecturer
ENGR 2301.001 Statics
ENGR 2301.002 Statics
ENGR 2301.003 Statics
MFGE 4367.001 Polymers & Polymer Proc.

SPRING 2022 – Lecturer
CE 1210.252 Introduction to Smart Infrastructure
ENGR 2301.251 Statics
ENGR 2301.252 Statics
ENGR 2301.253 Statics

FALL 2021 - Lecturer
CE 1210.002 Introduction to Smart Infra.
ENGR 2301.001 Statics
ENGR 2301.002 Statics
ENGR 2301.003 Statics

SUMMER 2021 - Lecturer
ENGR 2300.501 Engineering Materials

SPRING 2021 – Lecturer
ENGR 3311.253 Mechanics of Materials
ENGR 2301.251 Statics
ENGR 2301.252 Statics
ENGR 2301.253 Statics

FALL 2020 - Lecturer
ENGR 3311.003 Mechanics of Materials
ENGR 2301.001 Statics
ENGR 2301.002 Statics
ENGR 2301.003 Statics

SPRING 2020 – Lecturer
ENGR 2300.251 Engineering Materials
ENGR 2300.252 Engineering Materials
ENGR 2300.253 Engineering Materials
ENGR 3375.252 Mechanics Statics
SPRING 2019 – Lecturer
ENGR 2300.252 Engineering Materials
ENGR 3375.252 Mechanics Statics
MFGE 4367.251 Polymers & Polymer Processing
SPRING 2018 – Adjunct Professor
ENGR 2300.252 Engineering Materials
MFGE 4367.251 Polymers & Polymer Processing
SPRING 2017 – Adjunct Professor
ENGR 2300.251 Engineering Materials
MFGE 4367.251 Polymers & Polymer Processing
SPRING 2016 – Adjunct Professor
MFGE 4367.251 Polymers & Polymer Processing

FALL 2019 - Lecturer
ENGR 3375.001 Mechanics Statics
ENGR 3375.003 Mechanics Statics
ENGR 2300.003 Engineering Materials
MFGE 4367.001 Polymers & Polymer Proc.
FALL 2018 - Lecturer
ENGR 2300.003 Engineering Materials
ENGR 3375.003 Mechanics Statics
MFGE 4367.001 Polymers & Polymer Proc.
FALL 2017 – Adjunct Professor
ENGR 2300.003 Engineering Materials
MFGE 4367.001 Polymers & Polymer Proc.
FALL 2016 – Adjunct Professor
ENGR 3375.003 Mechanics Statics