

The Wind Science and Engineering (WiSE) Ph.D. degree program's required core courses include the following:

- **ATMO: Wind Science**
- **CE: Wind Engineering**
- **BA: Domestic & Global Economics**
- **STAT: Statistics for Engineers and Scientists I**
- **STAT: Statistics for Engineers and Scientists II**
- **MGMT: Leadership and Ethics in Engineering**
- **A three-month external summer internship**

**Current Faculty Advisors:**

***Atmospheric Science:***

**Brian Ancell, Ph.D.**  
**Song-Lak Kang, Ph.D.**  
**John Schroeder, Ph.D.**  
**Christopher Weiss, Ph.D.**

***Business:***

**Bradley Ewing, Ph.D.**

***Civil Engineering:***

**Xinzhong Chen, Ph.D.**  
**Ernst Kiesling, Ph.D.**  
**Kishor C. Mehta, Ph.D., P.E.**  
**Stephen Morse, Ph.D.**  
**Douglas A. Smith, Ph.D.**  
**Andrew Swift, Sc.D., P.E.**  
**DeLong Zuo, Ph.D.**

***Electrical Engineering:***

**Stephen Bayne, Ph.D.**  
**Michael Giesselmann, Ph.D.**  
**Vittal Rao, Ph.D.**

***Engineering Technology:***

**Daan Liang, Ph.D.**  
**Ali Nejat, Ph.D.**

***Mathematics:***

**Kathleen Gilliam, Ph.D.**

***Mechanical Engineering:***

**Jaime Chapman, Ph.D.**  
**Luciano Castillo, Ph.D.**

***Research Faculty:***

**Jerry Guynes, P.E.**

If you have a passion for wind, you can develop your innovative idea into reality at Texas Tech University. From here, it's possible.

Questions regarding this program should be directed to:

***Ph.D. Coordinator***

National Wind Institute  
Texas Tech University

Box 41023 | Lubbock, Texas 79409-1023

P 806.834.7967

[www.nwi.ttu.edu](http://www.nwi.ttu.edu)



TEXAS TECH UNIVERSITY

National Wind Institute™



TORNADOES



WIND DAMAGE



WIND ENERGY



HURRICANES

Everything *wind*



## TEXAS TECH UNIVERSITY HAS A WORLD-RENOWNED WIND SCIENCE AND ENGINEERING RESEARCH HISTORY...

The National Wind Institute (NWI) researches both the beneficial effects of the wind and how to mitigate wind-related damage to the built environment. Today, our institute has developed the following:

- Comprehensive FEMA adopted regulations on household and community storm shelters; also home of the National Storm Shelter Association (NSSA)
- The Enhanced Fujita (EF) scale to measure tornado wind speeds utilized by the National Weather Service
- Student-designed, state-of-the-art field equipment to study wind storms as they happen
- A growing network of 76 atmospheric Mesonet stations to provide up-to-the-minute weather reports for agricultural and other needs



The debris impact cannon at NWI.

TTU's National Wind Institute provides everything including student support, world-renowned faculty, and technologically advanced research facilities including one of the world's largest tornado vortex simulators and a field-based 200M meteorological tower.

### THE PROGRAM ITSELF..

The Ph.D. degree program in Wind Science and Engineering is the world's only multidisciplinary doctoral program studying wind today.

Our program is built for you to succeed in whatever your professional goals may be, and seeks students who have a drive and passion to research new and exciting ideas in wind-related areas.

Doctoral student research encompasses four main areas:

- Wind Energy
- Tornadoes
- Hurricanes
- Windstorm Damage Mitigation

Each incoming student is matched with a faculty mentor to guide their academic journey and the average program completion takes on average 4.5 years depending on the incoming student's educational background and individual progress.



One of the two TTU Ka-band mobile Doppler pulse compression systems.



Maribel Martinez, Ph.D., Assistant Emergency Management Coordinator, City of Amarillo, Texas.

*"My multidisciplinary education has proven to be beneficial in my career in emergency management..."*



Kevin R. Walter, Ph.D., Director of Meteorology, TradeWind-Energy, Kansas.

*"At Texas Tech, I found that the sky was the limit, and the environment was there to achieve as much as or as little as I endeavored."*

## FREQUENTLY ASKED QUESTIONS

**Q: Is there financial support for doctoral students?**

A: WiSE students are financially supported up to \$25,000 per year.

**Q: What is required of me to earn this financial support?**

A: Our first year students are required to complete the 6 core courses (see back page for list of courses). In addition, first year students are matched with faculty mentors who will teach them the research methods employed by the center. Second year and later students are required to act as teaching or research assistants to meet the financial requirements.

**Q: Who is accepted into the program?**

A: Students with Masters' degrees are preferred, but students with Bachelors' degrees are also considered. The program is highly selective as we search for individuals with backgrounds in engineering, physical or atmospheric sciences who are focused on designing and completing innovative wind-related research.

**Q: Where are the graduates of the program working?**

A: Our graduates work in the wind energy industry, national laboratories and government agencies, independent engineering consultants, private industry, and as professors in academia. We have a very successful rate of employment within weeks upon graduation.



An aerial view of the main campus of Texas Tech University in Lubbock.

### LIFE IN LUBBOCK...

Lubbock, Texas, is a mid-sized city growing in population (currently 200,000), industry and resources. Here you can find many activities and leisure opportunities ranging from Red Raider college sports events to artistic exhibitions and an active music scene.

Lubbock is just a half-day's drive to the Dallas-Ft. Worth metroplex and to Austin, and offers all the conveniences of a major city without the hassles.

You can travel across town in under 15 minutes by car, and can easily travel out of town through our international airport.

Please visit the Lubbock Convention and Visitor's Bureau website at [visitlubbock.org](http://visitlubbock.org).



Research being conducted in the VorTECH simulator.



Hector Cruzado, Ph.D., Graduate Program Coordinator, Polytechnic University of Puerto Rico.

*"I think it's great that students get so many different options in the wind engineering area..."*



Andrea Jackman, Ph.D., Senior Consultant, IBM Global Business Services, Fairfax, VA.

*"The more involved I get with my work, the more I appreciate the training I received in the WiSE Ph.D. program...It taught me the importance of stepping out of disciplinary boundaries to find the best solution to a problem."*