

**NAME: AE Senior Design Lab**  
**ROOM: ET 225**  
**SIZE: 1000 SQ. FT.**

EQUIPMENT

10 Workstations  
2 Plotters  
1 Printer  
1 Scanner

**NAME: AE Graphics Lab**  
**ROOM: ET 227**  
**SIZE: 1200 SQ. FT.**

EQUIPMENT

20 Workstations  
20 Dual Monitors  
2 Plotters  
1 Printer  
1 Projector  
1 Scanner

**NAME: Building System Simulation Lab**  
**ROOM: ET 244**  
**SIZE: 280 SQ. FT.**

EQUIPMENT

1 Applied Thermal Science Amatrol T7081  
1 Hampden H-MZBM-T1B  
1 Microsoft Hololens2 AR Glasses  
1 Testo 420 Flow Hood Kit  
1 GreenLee Pipe Bender  
1 Power Distribution System

**NAME: 3D AR Lab**  
**ROOM: ET 248**  
**SIZE: 800 SQ. FT.**

EQUIPMENT

1 Augmented Reality (AR) HTC VIVE Pro  
1 UltiMaker 3D Printer  
1 Plotter  
1 Projector  
1 Environmental System Amatrol T7083  
1 Thermal System Amatrol T7082  
1 Structural System Amatrol T9004  
2 Quanser Shaker  
1 Quanser Universal Power Module

**NAME: FLUID MECHANICS LABORATORY**  
**ROOM: ET 104**  
**SIZE: 1000 SQ. FT.**

EQUIPMENT

Cussons Open Flow Channel  
Hydraulic Bench with 1 Motor  
Hydraulic Bench with 2 Motor  
Variable Head Outlet Tank  
Open Channel Flow and Kit  
Complete Set of Tub and Valve  
Manometers  
Plenum Chamber Assembly  
Watt Meter  
Variable Speed Pump Control  
ELD Flow in Circular Tubes  
ELD Hydraulic Flume Channel

**NAME: MECHANICS OF MATERIALS LAB**  
**ROOM: ET 105**  
**SIZE: 1200 SQ. FT**

EQUIPMENT

Universal Testing Machine, Instron  
Tinius Olsen Torsion Machine  
Wilson Hardness Testing Machine  
Truss Models W/Components  
Baldwin Universal Testing Machine  
Baldwin Compression machine  
Clockhouse Testing Machine  
SATEC Impact Machine  
Slump Test Kits  
Concrete Mixer  
Ovens  
Tinius Olsen Hardness Tester  
Gilson Concrete Compression Tester  
Unit 10 kn Tensile Tester  
Mixal Concrete Mixer  
Concrete Thermocure

**NAME: SOIL MECHANICS LAB**  
**ROOM: ET 103**  
**SIZE: 1000 SQ. FT.**

EQUIPMENT

Direct Shear Testing Apparatus  
Heating Bath  
Sieve Shaker  
Triaxial Apparatus  
Permeability Test Chamber  
High Capacity Consolidation  
Electronic Scales  
Ovens  
Penetrometer  
Marshall Compression  
Mold Extractor  
Automatic Double Compactor  
Marshall Compactor  
Asphalt Mixer

Vacuum Extractor  
GeoTac Trautwein Panel  
GeoJac Automated Load  
GeoTac Regulated Power Supply  
GeoTac Network Module  
GeoTac Accusition Control  
GeoTac ADIO 4 Channel  
3" Triaxial Cell  
GeoTac Consolidation Test  
Dandy Refrigerator

**NAME: TRANSPORTATION LAB**  
**ROOM: ET 104**  
**SIZE: 800 SQ. FT**

EQUIPMENT

Transit KE SN106462  
Transit Kern, SN1911721  
Transit, SN91101  
Level KE SN44811  
Level KE SN44861  
Level KE SN30004  
Transit 30197  
Schneider Transit SN0564998  
Elect. Distant Measurer  
Laser Transit (Top Con DMSI)  
Level Auto (Top Con AT-FI)  
1 MIN. Transit  
Topcon Optical Micrometer  
Etta 50 Electronic Tachometer with Stands and Kits  
Wild NA-i, SN473576  
Kern K1-A Theodolite  
Berger 2T-8597  
Electronic Tachometer  
Nikon Total Stations

**NAME: ENVIRONMENTAL ENGINEERING LAB**  
**ROOM: ET 106**  
**SIZE: 1200 SQ. FT**

EQUIPMENT

Labconco Digestor  
Labconco OpenKjeldahl Apparatus  
C.O.D. Reactor  
Explosion Proof Refrigerator  
KNF Air Pump  
Dissolved Oxygen Meter  
Blue Digital Heating Oven  
Autoclave  
Dyrotory Shaker  
Incubator  
XL-3100 Balance  
Micromastaer Microscope  
Acuumet XL600  
Supelco Solid Extraction  
Fisher Vortex Mixer  
Spectrophotometer  
LC/MS

Tennessee State University  
College of Engineering  
Electrical and Computer Engineering  
Department

**RESEARCH LABORATORIES**

# **ENGINEERING RESEARCH Laboratories**

**Intelligent Control Systems Laboratory (ICSL) - NASA (1993)**

**750 sq.ft.**

**PI. Dr. Saleh Zein-Sabatto**

**[mzein@tnstate.edu](mailto:mzein@tnstate.edu)**

**(615) 963-5369**

# Assortment of Mobile Robots



# Assortment of Industrial Robots



# Testbed for Multi Robots Coordination





# “UAV” Unmanned Arial Vehicle



# Hardware Interface for X-Plain Simulator



# Wireless Cameras for Layered Sensing Research



# Reconfigurable Tooling Testbed

