



BILLING RATES - FY 17/18

DEPARTMENT NAME :

Civil Engineering

VICE-PRESIDENT AREA :

College of Engineering, Computing, and Applied Sciences

DESCRIPTION OF COMMODITY OR SERVICE :	UNIT OF BILLING	FY 17/18 RATE	CUSTOMERS BEING SERVED
Room 17 (Materials Testing Equipment)			
Use of 10 kip UTM	Day	\$500.00	External
Use of Torsion Machine	Day	\$500.00	External
Room 21 Lowry (soil mechanics lab)			
Use of Soil Mechanics Lab (room 21 Lowry)	Hour	\$100.00	External
Atterberg plastic limit test (ASTM D4318)	per each test	\$100.00	External
Atterberg liquid limit test (ASTM D4318)	per each test	\$100.00	External
Sieve analysis with wash #200 sieve (ASTM D422)	per each test	\$100.00	External
Hydrometer gradation analysis (ASTM D422)	per each test	\$120.00	External
Moisture content (ASTM D2216)	per each test	\$20.00	External
Standard Proctor density test up to 5 moisture contents (ASTM D698)	per each test	\$500.00	External
Each additional moisture content	per each test	\$100.00	External
Consolidation test up to 8 load increments (ASTM D2435)	per each test	\$650.00	External
Each additional load increment	per each test	\$100.00	External
Direct shear test up to 3 normal loads (ASTM D3080)	per each test	\$650.00	External
Each additional load	per each test	\$100.00	External
Consolidated undrained (CU) triaxial test with pp measurements on Shelby tube samples (ASTM D4767)	per each test	\$1,000.00	External
Remold and test	per each test	\$1,150.00	External
Unconsolidated undrained (UU) triaxial test on Shelby tube samples (ASTM D2850)	per each test	\$700.00	External
Remold and test	per each test	\$800.00	External
Unconfined compression triaxial test (ASTM D2166)	per each test	\$150.00	External
Rooms 23/29 Lowry (Concrete Materials Lab)			
Use of Concrete Materials Labs (23/29)	Hour	\$80.00	External
Use of 300 kip UTM	Hour	\$100.00	External
Density (ASTM C 188)	per each test	\$100.00	External
Compressive Strength (ASTM C 39) a set of 3 cylinders	per each test	\$75.00	External
Flexural Strength (6' x 6" x 20" beams) for a set of two beams (ASTM C 348)	per each test	\$100.00	External
Rapid Chloride Ion Permeability (ASTM C 1202), for a set of two specimens	per each test	\$550.00	External



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Petrographic Examination (ASTM C 856) for one test specimen	per each test	\$700.00	External
Accelerated Mortar Bar Test (ASTM C 1260 Test) for 3 mortar bars	per each test	\$500.00	External
Concrete Prism Test (ASTM C 1293 Test) for 3 prisms	per each test	\$750.00	External
Freeze-Thaw Durability (ASTM C 666 Test) for 2 prisms	per each test	\$550.00	External
Ultrasonic Pulse Velocity Test to Determine Dynamic Modulus of Concrete	per each test	\$100.00	External
Resonant Frequency Test to Determine Dynamic Modulus of Elasticity	per each test	\$100.00	External
LA Abrasion Test for Aggregates (ASTM C 131)	per each test	\$200.00	External
Micro-Deval Abrasion Test for Aggregates	per each test	\$200.00	External
Sulfate Soundness Test for Aggregates (ASTM C 88)	per each test	\$450.00	External
Particle size distribution	per each test	\$100.00	External
Specific surface area	per each test	\$250.00	External
X-ray diffraction pattern to assess the glassy nature of the silica and pozzolanic reactivity	per each test	\$250.00	External
Strength activity index with portland cement	per each test	\$125.00	External
Initial Time of Setting (ASTM C 191)	per each test	\$75.00	External
Final Time of Setting (ASTM C 191)	per each test	\$75.00	External
Flow of Mortars (ASTM C 1437)	per each test	\$50.00	External
Unit Weight of Mortars	per each test	\$50.00	External
Rate and Degree of Hydration	per each test	\$400.00	External
Microstructure (Scanning Electron Microscope at AMRL)	per each test	\$450.00	External
Room 25			
Use of Shimadzu UTM	Hour	\$65.00	External
Room 30 Lowry (fluids lab)			
Wave Tank (2x2)	Day	\$1,000.00	External
Tilting Flume	Day	\$75.00	External
4x2 Flume	Day	\$1,600.00	External
Rate per Square Foot of Floor Space	SF/Day	\$1.00	External
Flow Benches	Hour	\$25.00	External



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Flow Bench accessories	Hour	\$25.00	External
Research Labs (off-campus):			
ARTS			
Use of Training/Seminar Room	Day	\$125.00	External
Use of Training/Seminar Room	Half Day	\$70.00	External
Use of small Conference Room	Half Day	\$40.00	External
Use of small Conference Room	Day	\$75.00	External
centrifuge with 4 place rotor	Hour	\$25.00	External
Troxler Gyrotory Compactor	Hour	\$30.00	External
Troxler Ignition Oven	Hour	\$30.00	External
Brookfield Rotational Viscometer	Hour	\$20.00	External
Cox Rolling Thin Film Oven	Hour	\$30.00	External
Bohlin Dynamic Shear Rheometer	Hour	\$30.00	External
PTI Vibratory Compactor	Hour	\$30.00	External
PTI Asphalt Pavement Analyzer	Hour	\$80.00	External
Cannon Bending Beam Rheometer	Hour	\$30.00	External
Interlaken Direct Tension Tester	Hour	\$30.00	External
Troxler Nuclear Asphalt Density Gauge	Hour	\$50.00	External
Prentex Pressure Aging Vessel	Hour	\$30.00	External
Waters Chromatograph	Hour	\$100.00	External
Cox Axial Test System	Hour	\$100.00	External
Oros Sound Vibration Analyzer	Hour	\$50.00	External
Grieve Large Floor Oven	Hour	\$20.00	External
Use of Environmental Chamber	Hour	\$50.00	External
Use of AMPT	Hour	\$100.00	External
Use of Silverson Hi Shear Blender	Hour	\$20.00	External
Use of Mary Ann Sifter	Hour	\$30.00	External
Use of RoTap Shaker	Hour	\$30.00	External
Use of LA Abrasion Machine	Hour	\$50.00	External
Use of Masonry Saw	Hour	\$30.00	External
Use of Core Drill	Hour	\$30.00	External
Use of 10 kip UTM	Hour	\$80.00	External
Use of Foamer	Hour	\$100.00	External
Use of Waters HPLC	Hour	\$100.00	External
Projected Revenue Generated by ARTS FY16/17			

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Wind Tunnel (set up time- tunnel not running)	Day	\$500.00	External
Wind Tunnel time (fans running)	Hour	\$125.00	External
Use of Florida House Instrumentation Box	Day	\$500.00	External
Flat Bed Trailer Use	Day	\$50.00	External
Use of MTS servo hydraulic rams	Day	\$600.00	External
Simpson Triaxial Test Machine	Day	\$ 500.00	External
Use of Tinius Olsen 10 kip UTM	Day	\$500.00	External
Large test frame plus actuator	Day	\$600.00	External
Structural Testing Trailer	Day	\$1,000.00	External
Use of High Speed Camera	Hour	\$150.00	External
Use of BrerWulf	Day	\$600.00	External
Use of Air Cannon	Hour	\$50.00	External
Use of wall racking fixture	Day	\$600.00	External
Use of Floor Space	SF/Day	\$1.00	External
Use of vibrating wire gauge data acquisition system	Day	\$75.00	External
Structures Lab: Dynamic Testing			
Piezoelectric Accelerometer	Day	\$25.00	External
Piezoelectric Miniature Dynamic Strain Gauge	Day	\$25.00	External
Instrumented Hammer (Small)	Day	\$20.00	External
Instrumented Hammer (Large)	Day	\$30.00	External
6 channel Data Acquisition System	Day	\$150.00	External
Shaker (17N) with Controller	Day	\$100.00	External
Laptop with Data Acquisition Software	Day	\$50.00	External
Clemson Hydraulics Lab (CHL)			
4x4 Indoor Flume	Day	\$1,600.00	External
Use of existing fluid tanks	Hour	\$50.00	External
Use of ADV	Hour	\$20.00	External
Use of Pumps (.5 - 2 CFS)	Hour	\$10.00	External
Use of 4x4 Outdoor Flume	Day	\$1,600.00	External
Rate per Square Foot Floor Space	SF/Day	\$1.00	External
Vehicles			
1993 Ford F250	Day/Mile*	\$60/.55*	External
2004 Ford Ranger	Day/Mile*	\$75/.55*	External
2002 Ford SuperCab	Day/Mile*	\$75/.55*	External
2005 White Dodge Quad Cab Pickup	Day/Mile*	\$75/.55*	External



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2005 Black Dodge Quad Cab Pickup	Day/Mile*	\$75/.55*	External
2006 Ford E350 12 Passenger Van	Day/Mile*	\$85/.55*	External
*Daily rate includes 100 mi/day. 55 cent/mile for every mile over 100/day			
1999 EZGo Golf Cart	Day	\$35.00	External
Transportation			
Transportation Surveillance Van Mobilization	Day/mile**	\$85/.55**	SCDOT/External
** includes 150 mi/day Minimum 150 miles			
Transpo Van static data collection	Hour	100	SCDOT/External
Transpo Van dynamic data collection	Mile	10	SCDOT/External
Corrosion Lab (Room 17)			
Rapid Chloride Ion Permeability (ASTM C 1202), for a set of three specimens	per each test	800	External
Linear Polarization Resistance Test	per each test	100	External
Cyclic Polarization Tests	per each test	400	External
Elechemical Impedance Spectroscopy	per each test	400	External
Electrical Impedance Spectroscopy	per each test	100	External
Cyclic Voltammetry Test	per each test	400	External
Other Electrochemical Tests	per each test	300	External
Half-Cell Potential	Hour	100	External
Pontentiostat	Hour	600	External
Automatic Corrosion and Electrochemical Impedance Monitoring System	Hour	300	External
Advanced DC/AC power source	Hour	100	External
Scanning Electrochemical Microscope	Hour	1000	External
General			
Technician Time	Hour	75	External
Undergraduate Student Time	Hour	15	External
Graduate Student Time	Hour	30	External
Test Specimen Disposal Fee	Ton	200	External