



## BILLING RATES - FY 18/19

DEPARTMENT NAME :

**Civil Engineering**

VICE-PRESIDENT AREA :

**College of Engineering, Computing, and Applied Sciences**

DESCRIPTION OF COMMODITY OR SERVICE :	UNIT OF BILLING	FY 18/19 RATE	CUSTOMERS BEING SERVED
<b>Room 21 Lowry (soil mechanics lab)</b>			
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
Triaxial test (each test includes 3 specimens and 3 Mohr's circles)			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
Faculty Time	hour	\$150.00	External



## BILLING RATES - FY 18/19

**DEPARTMENT NAME :**

**Civil Engineering**

**VICE-PRESIDENT AREA :**

**College of Engineering, Computing, and Applied Sciences**

DESCRIPTION OF COMMODITY OR SERVICE :	UNIT OF BILLING	FY 18/19 RATE	CUSTOMERS BEING SERVED
<b>Rooms 23/29 Lowry (Concrete Materials Lab)</b>			
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
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



## BILLING RATES - FY 18/19

DEPARTMENT NAME :

**Civil Engineering**

VICE-PRESIDENT AREA :

**College of Engineering, Computing, and Applied Sciences**

DESCRIPTION OF COMMODITY OR SERVICE :	UNIT OF BILLING	FY 18/19 RATE	CUSTOMERS BEING SERVED
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
Faculty Time	hour	\$150.00	External
<b>Room 25</b>			
Use of Shimadzu UTM	hour	\$65.00	External
<b>Room 30 Lowry (fluids lab)</b>			
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
Flow Bench accessories	hour	\$25.00	External
Faculty Time	hour	\$150.00	External



**BILLING RATES - FY 18/19**

**DEPARTMENT NAME :**  
**Civil Engineering**

**VICE-PRESIDENT AREA :**  
**College of Engineering, Computing, and Applied Sciences**

<b>DESCRIPTION OF COMMODITY OR SERVICE :</b>	<b>UNIT OF BILLING</b>	<b>FY 18/19 RATE</b>	<b>CUSTOMERS BEING SERVED</b>
<b>Research Labs (off-campus):</b>			
<b>ARTS</b>			
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



**BILLING RATES - FY 18/19**

**DEPARTMENT NAME :**

**Civil Engineering**

**VICE-PRESIDENT AREA :**

**College of Engineering, Computing, and Applied Sciences**

<b>DESCRIPTION OF COMMODITY OR SERVICE :</b>	<b>UNIT OF BILLING</b>	<b>FY 18/19 RATE</b>	<b>CUSTOMERS BEING SERVED</b>
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
Faculty Time	hour	\$150.00	External
<b>WiSER</b>			
Wind Tunnel (set up time- tunnel not running)	day	\$500.00	External
Wind Tunnel time (fans running)	hour	\$125.00	External
Flat Bed Trailer Use	day	\$50.00	External
Use of MTS servo hydraulic rams	day	\$600.00	External
Use of Tinius Olsen 10 kip UTM	day	\$500.00	External
Large test frame plus actuator	day	\$600.00	External



## BILLING RATES - FY 18/19

DEPARTMENT NAME :

**Civil Engineering**

VICE-PRESIDENT AREA :

**College of Engineering, Computing, and Applied Sciences**

DESCRIPTION OF COMMODITY OR SERVICE :	UNIT OF BILLING	FY 18/19 RATE	CUSTOMERS BEING SERVED
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 Portable Hydraulic Load System	day	\$500.00	External
Use of vibrating wire gauge data acquisition system	day	\$75.00	External
Use of 20 channel data acquisition system	day	\$500.00	External
Faculty Time	hour	\$150.00	External
<b>Structures Lab: Dynamic Testing</b>			
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
Faculty Time	hour	\$150.00	External



## BILLING RATES - FY 18/19

DEPARTMENT NAME :

**Civil Engineering**

VICE-PRESIDENT AREA :

**College of Engineering, Computing, and Applied Sciences**

DESCRIPTION OF COMMODITY OR SERVICE :	UNIT OF BILLING	FY 18/19 RATE	CUSTOMERS BEING SERVED
<b>Clemson Hydraulics Lab (CHL)</b>			
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
Faculty Time	hour	\$150.00	External
<b>Vehicles</b>			
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
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			External
1999 EZGo Golf Cart	day	\$35.00	External



## BILLING RATES - FY 18/19

DEPARTMENT NAME :

**Civil Engineering**

VICE-PRESIDENT AREA :

**College of Engineering, Computing, and Applied Sciences**

DESCRIPTION OF COMMODITY OR SERVICE :	UNIT OF BILLING	FY 18/19 RATE	CUSTOMERS BEING SERVED
<b>Transportation</b>			
Transportation Surveillance Van Mobilization	day/mile*	\$85/.55**	External
** includes 150 mi/day Minimum 150 miles			
Transpo Van static data collection	hour	\$100.00	External
Transpo Van dynamic data collection	mile	\$10.00	External
Faculty Time	hour	\$150.00	External
<b>Corrosion Lab (Room 17)</b>			
Rapid Chloride Ion Permeability (ASTM C 1202), for a set of three specimens	per each test	\$800.00	External
Linear Polarization Resistance Test	per each test	\$100.00	External
Cyclic Polarization Tests	per each test	\$400.00	External
Elechemical Impedance Spectroscopy	per each test	\$400.00	External
Electrical Impedance Spectroscopy	per each test	\$100.00	External
Cyclic Voltammetry Test	per each test	\$400.00	External
Other Electrochemical Tests	per each test	\$300.00	External
Half-Cell Potential	hour	\$100.00	External
Pontentiostat	hour	\$600.00	External
Automatic Corrosion and Elelctrocial Impedance Monitoring Systme	hour	\$300.00	External
Advanced DC/AC power source	hour	\$100.00	External
Scanning Electrochemical Microscope	hour	\$1,000.00	External
Facutly Time	hour	\$150.00	External





**BILLING RATES - FY 18/19**

**DEPARTMENT NAME :**

**Civil Engineering**

**VICE-PRESIDENT AREA :**

**College of Engineering, Computing, and Applied Sciences**

<b>DESCRIPTION OF COMMODITY OR SERVICE :</b>	<b>UNIT OF BILLING</b>	<b>FY 18/19 RATE</b>	<b>CUSTOMERS BEING SERVED</b>
<b>General</b>			
Technician Time	hour	\$75.00	External
Undergraduate Student Time	hour	\$15.00	External
Graduate Student Time	hour	\$30.00	External
Test Specimen Disposal Fee	ton	\$200.00	External