Mission Statement - This core laboratory will maintain Departmental capability to provide basic organic chemical and radiolabelled compound analyses for environmental matrices.

Location - G176, 2146, 2149 and 3183 McCarty Hall

Contributing Faculty – John E. Thomas (Coordinator)

Equipment – Liquid Chromatograph-Quadrupole Mass Spec-Mass Spec (LC-MS/MS), Gas Chromatographs (2 GC) with 4 detectors (Electron Capture Detector or Flame Photometric Detector or Nitrogen-Phosphorus Detector or Flame), High Performance Liquid Chromatograph with UV-Visible Tunable Detector (HPLC), Ultraviolet-Visible Spectrophotometers (UV-Vis), Liquid Scintillation Counter (LSC), Temperature-Controlled Water Bath, Dissecting Microscope, pH and Conductivity Meters, Centrifuges, Sample Shakers, Ovens, Incubators, Electronic Balances, Electrophoresis, Small Autoclave, Accelerated Solvent Extractors (ASE), Ultrasonic Extractors (USE), Solid Phase Vacuum Manifold Extractor (SPVME) and Vacuum Pumps

Instruments and Costs -

<table>
<thead>
<tr>
<th></th>
<th>I. LC-MS/MS:</th>
<th>II. GC</th>
<th>III. HPLC</th>
<th>IV. LSC</th>
<th>V. UV-Vis</th>
<th>VI. Extractors (ASE, USE, SPVME)</th>
<th>VII. Small Autoclave</th>
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</thead>
<tbody>
<tr>
<td>1) Charge</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>2) Per unknown</td>
<td>$35</td>
<td>$10</td>
<td>$25</td>
<td>$2</td>
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<td>sample, if student analyzed samples</td>
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<td>3) Per unknown</td>
<td>$75</td>
<td>$25</td>
<td>$25</td>
<td>$5</td>
<td>$25</td>
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<td>sample, if technician analyzed samples</td>
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<tr>
<td>4) Charge for 1</td>
<td>$500</td>
<td>$250</td>
<td>$250</td>
<td>$50</td>
<td>$125</td>
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<td>$50</td>
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<td>day training. Fee waived for UF SWS dept.</td>
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</tbody>
</table>

Instruments and Costs -
Note: Prices listed have been appropriately discounted for labor or materials provided from external sources. Students are expected to supply consumables such as columns, vials, vial caps, solvents, etc. Use of the laboratory facilities by graduate students and post-doctoral associates will be accommodated to the extent possible.

For additional information contact:
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Tel: 352-294-3133; E-mail: thomas@ufl.edu
**Basis for Establishing Pedology/Mineralogy Core Laboratory Analytical Prices**

Prices for each procedure are established to cover the following costs on a per sample basis for the following:

(i) Attrition of expendable materials (chemicals, glassware, etc.).

(ii) Maintenance and operation costs of equipment required to conduct the procedure.

(iii) Labor costs for the level of expertise required for the procedure. For example, some instrumentation (e.g., x-ray diffractometer) can only be safely operated by well-trained personnel. Also, radiation safety badges are required for operation of the diffractometer. These badges require a monthly fee and are only issued to authorized persons whose labor costs are higher than for student OPS labor.

(iv) Overhead and incidental costs, on a time-proportional basis, that have to be paid by the core lab (e.g., some electrical service and plumbing; safe chemical waste disposal, etc.).

The following 4 page show an example cost analysis for operation of an automated Shimadzu C/N analyzer in the laboratory, as performed by Dr. Brent Myers.

**Further Breakdown of XRD Powder Scan Costs**

- Scans up to 60 degrees - $30.00, with txt files of intensity versus 2 theta.
- Scans up to 80 degrees - $35.00, with txt files of intensity versus 2 theta.
- PDF files with d-spacing labels on peaks - additional $5.00
- Interpretations - additional $10.00