

Raw to Crust Course Agenda

This course is intended for individuals working in the leather industry and is a combination of classroom lecture and hands-on application in a pilot tannery setting. The lecture portion of the course will be presented by personnel from the Leather Research Laboratory. Industry experts from the chemical supply base and working tanneries will work with attendees in the pilot tannery to help understand what it takes to make beautiful leather in a production environment. The total course will be presented at the USDA ERRC's pilot tannery facility near Philadelphia, Pennsylvania and will be completed over two weeks.

Topics Covered:

Hide, Skin & Leather Histology (ALCA Chapters 1 – 3)

- Functions & Structure of Hide & Skin
- Components of Hide & Skin
 - Relevance to Leather Processing
- Structure of Leather
 - Comparative – Bovine, Ovine & Porcine

Hide Supply Considerations

- Constraints to production
- Global market forces

Beamhouse

- General Chemistry (ALCA Chapter 4)
 - Acid / Base & Salts
 - pH Scale
- Operations
 - Soaking (ALCA Chapter 5)
 - Process Checks / Faults
 - Fleshing
 - Green or Lime
 - Liming
 - Keratin Degradation
 - Opening Up of Fibers
 - Fat Removal
 - Process Checks / Faults
 - Auxiliaries
 - Sodium Hydrosulfide
 - Sodium Sulfide
 - Process Hazards

Beamhouse (continued)

- Delime (ALCA Chapter 6)
 - Lime & Sulfide Removal
 - pH reduction
 - Process Checks / Faults
- Splitting
 - Lime Splitting / Blue Splitting
 - Process Control
- Bating
 - Enzymes 101
- Pickling
 - Acid / Salt balance
 - Target pH
 - Pickle – Free Systems

Tanyard

- Tanning (ALCA Chapter 7 & 8)
 - General Chemistry - pH & valences
 - Chromium Salt Chemistry
 - Alternate Tanning Agents
 - Veg Tanning
 - Fungicide Option
 - Process Checks / Faults

Retanning / Coloring / Fat Liquoring (ALCA Chapters 11 – 14)

- Retan Chemistry Options
- Coloring Options
- Fat Liquoring Options

Drying

- Toggle
- Vacuum

Mechanical Processes (ALCA Chapter 10)

- Milling
- Staking
- Splitting
- Shaving
- Plating

Additional References Recommended (not included):

Practical Leather Technology by T.C. Thorstensen.
Leather Technician's Handbook by J. H. Sharpouse

Course Materials Provided:

Three-ring binder with hardcopy slides from all presentations.
Copy of the widely regarded industry reference book: *Skin, Hide and Leather Defects* by Jean Tancous.
Leather bound notebook for note taking.
Leather Industries of America directory.
Latest version of *Standards Governing the Sale of North American Cattle Hides* published by the United States Hide, Skin & Leather Association.

Course Location: USDA Eastern Regional Research Center
600 East Mermaid Lane
Wyndmoor, Pennsylvania 19038
(If using a GPS for directions, replace *Wyndmoor* with *Glenside*.)

Note: This is a U.S. Government facility. All visitors must indicate nationality before arrival and show proper ID upon entering. If arriving by car, will also need to provide the vehicle license plate number.

Cost: \$1600/person/week or \$2800/person for both weeks

Lunch & snacks provided on all course days.

Date: July 31 to August 11

Recommended Airports:

Philadelphia Int'l Airport, (PHL) Philadelphia, PA
Newark Liberty Int'l Airport (EWR), Newark, NJ
John F. Kennedy Int'l Airport (JFK), Jamaica, NY

Nearby Lodging:

Chestnut Hill Hotel (The closest hotel to ERRC)
8229 Germantown Avenue, Philadelphia, PA 19118
(215) 242-5909

Hilton Garden Inn, Fort Washington
530 Pennsylvania Ave., Fort Washington, PA 19034
(215) 646-4637

Best Western
285 Commerce Drive, Fort Washington, PA 19034
(215) 542-7930

Doubletree Guest Quarters
640 West Germantown Pike, Plymouth Meeting, PA 19462
(610) 834-8300

Courtyard by Marriott
651 Fountain Road, Plymouth Meeting, PA 19462
(610) 238-0695

SpringHill Suites by Marriott
430 Plymouth Road, Plymouth Meeting, PA 19462
(610) 940-0400

Extended StayAmerica Philadelphia - Plymouth Meeting
437 Irwins Lane, Plymouth Meeting, PA 19462
(610) 260-0488

Best Western Fort Washington Inn
285 Commerce Drive, Fort Washington, PA 19038-2406
(215) 542-7930

Registrants responsible for reservations and payment directly with hotel.

Contact: Savannah Tye at 513 242-6300 or email tyesh@ucmail.uc.edu for further information or to register for one of these courses.