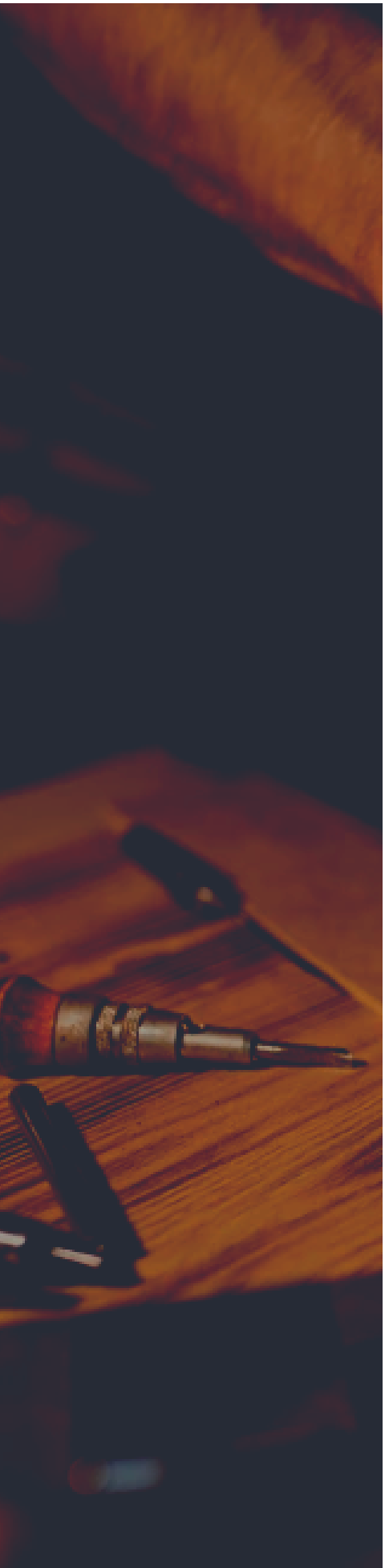
AASTMT LEATHER TECHNOLOGY CENTER

Co-funded by the
Erasmus+ Programme
of the European Union

Co-funded by the
Erasmus+ Programme
of the European Union



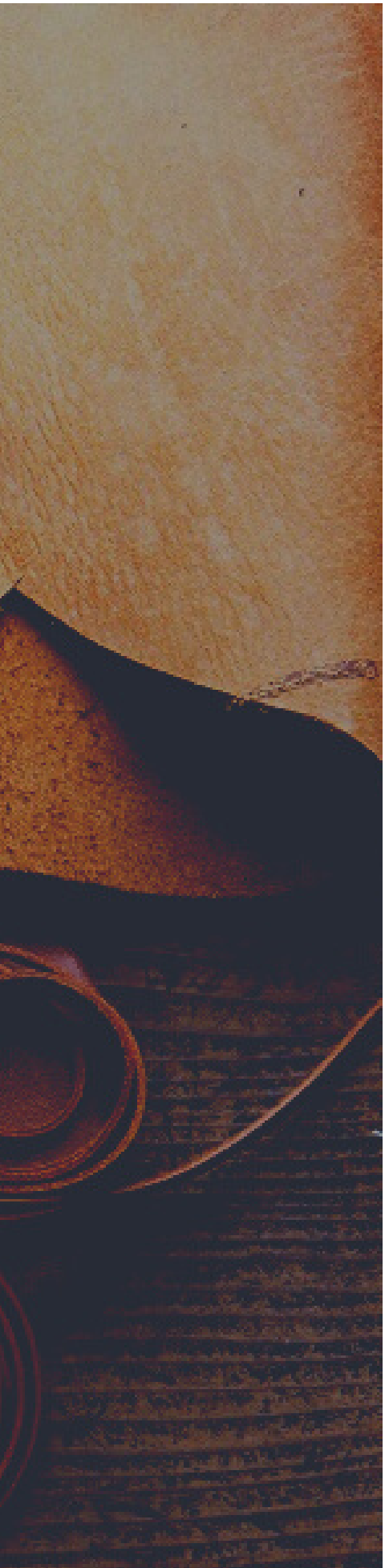
The AASTMT Leather Technology Center is a state-of-the-art leather center inside Abou Kir campus of the Arab Academy for Science, Technology and Maritime Transport. The leather center is established under the umbrella of the Erasmus+ funded project titled INNOVATION FOR THE LEATHER INDUSTRY IN JORDAN AND EGYPT "INNOLEA".

INNOLEA:

INNOLEA is one of the Erasmus plus three years long program projects, which aims to fill an apparent gap in the area of specialized services for the leather sector with the establishment of four leather centers in local universities, two in Jordan and two in Egypt, utilizing the experience and expertise of EU partners in the area of services for the leather sector.

Through the creation of these centers and the further tasks that will be implemented in this project, the leather sectors in Jordan and Egypt will be offered access to business development services, such as quality testing, training, fashion trends, production organization and Business to Business cooperation opportunities. Subsequently, the Jordanian and Egyptian leathers sectors will have a valuable ally for their further development.

Co-funded by the
Erasmus+ Programme
of the European Union



The project also aims to create and maintain a link between Universities and businesses of the leather sector that will foster innovation and the manufacturing of high value quality products, as well as further cooperation between EU and Jordan and Egypt Universities and leather businesses.

The project also aims to help encourage the Egyptian and Jordanian governments to favor the establishment of leather centers within universities and to promote research and projects between EU and Egypt and Jordan universities in the leather sector, by creating a research innovation and training network, which will continue to operate after the end of the current project also.

Arab Academy for Science, Technology and Maritime Transport "AASTMT"

ASTMT is one of the partners in the INNOLEA project in which the Egyptian leather technology center was established. Since its establishment in 1972, AASTMT has achieved a remarkable and sustained progress as a specialized organization, a top-level house of expertise and a highly reputable technical arm for the Arab League.

Today, AASTMT's vision is to be recognized as a worldwide center of excellence for maritime and college education according to international standards of education, scientific research, innovation and training. While fulfilling its community service responsibilities, it seeks to maintain its status as a distinguished Arab house of excellence and first choice for students regionally and internationally.

Co-funded by the
Erasmus+ Programme
of the European Union

For over 47 years, AASTMT has managed to keep up with the fast pace of development in the fields of education, training, consultation and scientific research. AASTMT has adhered to its strategy in qualifying Arab and African calibers who can become future leaders and progressive entrepreneurs in their home countries. In so doing, it has relied on building bridges of collaboration and establishing strong ties with top universities and research centers worldwide, thus enabling these distinguished calibers to become the best ambassadors for AASTMT.

Furthermore, AASTMT has always been a pioneer in obtaining quality certification for education and training in the headquarters country (Arab Republic of Egypt). It has transcended from being a regional organization to acquiring international status through obtaining international accreditation from top international entities in various specializations.

AASTMT has expanded inside and outside Egypt by establishing headquarters and branches in Alexandria, Cairo, Aswan, Port Said, Latakia (Syrian Arab Republic), in addition to its new branch in Sharjah, UAE. Taking the lead in development and seeking natural expansion, AASTMT has headed West and opened its latest branch in New Alamein City. Thus, AASTMT manages 8 campuses with 13 colleges, in addition to a number of higher education institutes, training centers and different specialized units.

Co-funded by the
Erasmus+ Programme
of the European Union

College of International Transport & Logistics (CITL)

CITL is the college that represents the Arab Academy for Science, Technology and Maritime Transport (AASTMT) as a partner in the INNOLEA project and was responsible for conducting all related activities.

AASTMT has provided the study of the management of international transport and logistics since 1995 in order to cope with the trends in the global business market. AASTMT has established the College of International Transport and Logistics (CITL), which is the only college in the Middle East and North African regions to offer bachelor's degree in the of Trade Logistics and International Transport, in both the Arabic and English languages. The programs of study that have been recently developed in collaboration with a number of universities in the United Kingdom to cope with the latest developments in the field of international transport and logistics. The programs are accredited by the Association of Arab Universities and the International Association of Universities. The programs have also been accredited by the Higher Council of Egyptian Universities as equal to the B.Sc. degree in Business Administration awarded by the Faculties of Commerce of the Egyptian Universities.

Co-funded by the
Erasmus+ Programme
of the European Union

Industry Service Complex (ISC)

The INNOLEA Leather Technology Center of AASTMT was established inside and is being managed by the Industry Service Complex.

Based on the Arabic and regional role for AASTMT, it established The Industry Service Complex (ISC) in 2004. It aims at facilitating the process of transferring modern technology and providing the different industrial sectors with consultancy and highly qualified technical staff, that contributes in developing the Arab communities. This is through the Research and Development Unit, which implements a lot of projects by adopting the modern international technologies and performing them by Egyptian hands with a competitive quality.

AASTMT Leather Technology Center offers the following training courses, tests and consultancy Services:

I. AASTMT Leather Technology Center Training Courses

1. Course name: Introduction to leather Processing

Aim of the course

Explaining the main stages of leather processing from curing to tanning through studying different skin types and know available techniques in tanning.

Co-funded by the
Erasmus+ Programme
of the European Union

Course Content:

- Raw Hides and Skin- Slaughterhouse and curing operations
- Wet stage leather Processing from the beam house to tan yard
- Processing from tanning to finishing- Best available techniques in the tanning
- Treating effluents resulting from leather processing
- Environmental management in tanneries

Learning outcomes

By the end of this course the trainee will be able to:

- Identify basics of raw hides and skin types.
- Explore the different stages of leather processing starting. from curing to tanning.
- Identify skin defects.
- Explore available techniques in tanning.

2. Course name: Environmental management in the leather industry

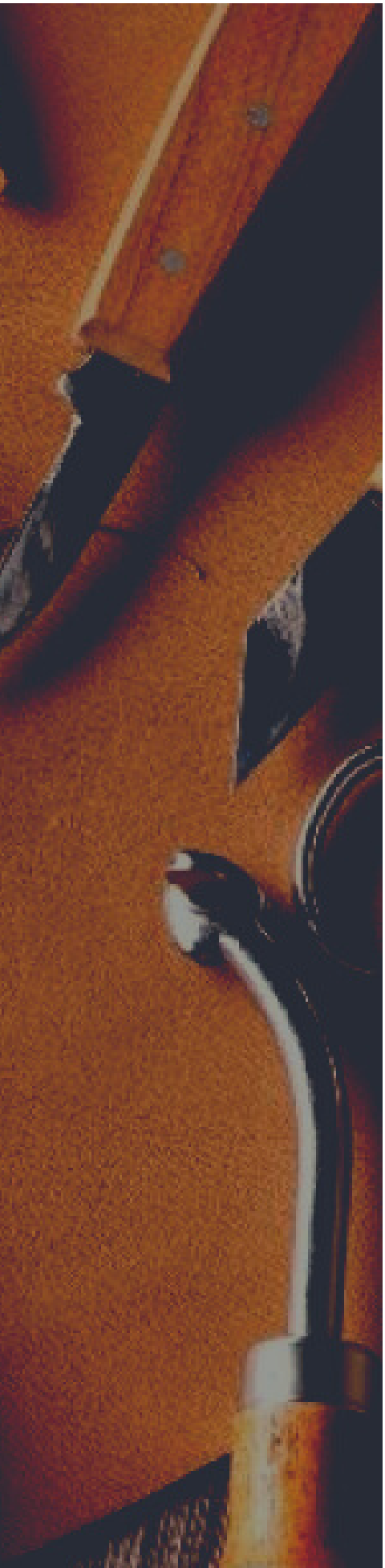
Aim of the course

Identifying the solid and liquid wastes resulting from leather tanneries and environmental techniques in treating toxic waste.

Course Content:

- Environmental management
- Water requirements for use in the tanning process
- Chemical materials management and disposal
- Sewage water treatment
- Toxic waste treatment

Co-funded by the
Erasmus+ Programme
of the European Union



Learning outcomes:

By the end of this course the trainee will be able to:

- Identify hazardous substances in leather industry.
- Identify chemical materials management and disposal.
- Identify techniques of sewage water treatment and toxic waste.

3. Course name: Chemical test methods for leather

Aim of the course

Understand different chemical test methods performed in accredited laboratories to inspect the quality of leather according to ISO/IEC 17025.

Course Content:

- Quality control in an accredited laboratory according to ISO/IEC 17025- Restricted substances
- Chemical &Physical- Mechanical characteristics of the main leather assortments- Chemical Analysis of Leather
- Chemical tests instrumental analysis-
- Chemical Tests for Auxiliaries in Leather Processing

Co-funded by the
Erasmus+ Programme
of the European Union

Learning outcomes:

By the end of this course the trainee will be able to:

- Recognize the importance of quality control and accredited laboratories.
- Identify Chemical &Physical- Mechanical characteristics of the main leather assortments.
- Understand the procedures of different chemical tests and instrumental analysis.

4. Course name: Physical – Mechanical test methods for leather

Aim of the course

Understand and undergo different physical and mechanical test methods and operate test equipment in leather testing lab according to ISO standards:
ISO:2598:2016,2420:2017,3376:2011, 3377-1:2011, 3377-2:2016, 23910:2019, 23910:2019, 54021:2017, 17694:2016, 17699:2003, 19074:2015, 17229:2016, 14268:2012 (E)

Course Content:

- Physical – Mechanical Test Methods for Leather
- Preparation of test pieces -Measuring the apparent density- Mass per unit area
- Determination of water vapor absorption- Water vapor permeability-water permeability
- Determination of Flex Resistance -Flexometer test
- Determination of Tensile Strength Test- Measurements of stitch tear resistance Determination of tear load

Co-funded by the
Erasmus+ Programme
of the European Union

Learning outcomes:

By the end of this course the trainee will be able to:

- Recognize different physical and mechanical test methods and equipment.
- Prepare different test specimens according to standards.
- Identify different test equipment and take readings.
- Undergo different tests; density, mass per unit area, water vapor absorption, water vapor permeability , water permeability, flex resistance and tensile measurements.

5. Course name: Research and Development in Leather Industry

Aim of the course

Apply research and development in the leather industry to achieve better services and reduce risks by applying tools of service management and risk management.

Course Content:

- Research and Experimental Development activities
- Innovation activities
- Service Management
- Risk Management
- Methods of Risk Reduction

Co-funded by the
Erasmus+ Programme
of the European Union

Learning outcomes:

By the end of this course the trainee will be able to:

- Study types of activities of relevance to innovation – R&D activities.
- Learn how to achieve sustainability in leather production.
- Apply service management tools to achieve better customer satisfaction.
- Understand risk management and how to eliminate risks through risk analysis and assessment.

Managerial training:

1. Course name: How to manage your tannery

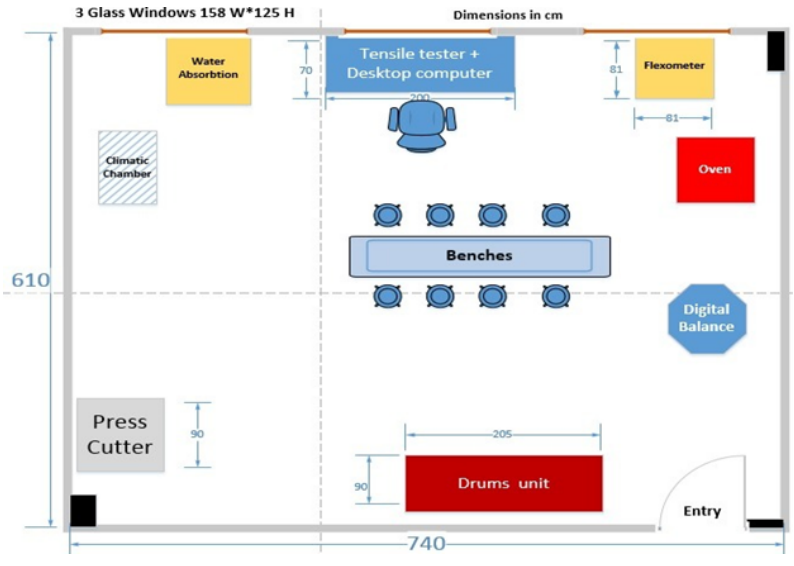
Aim of the course

Introducing the management process and the managerial activities starting with planning to execution to enhance the business performance.

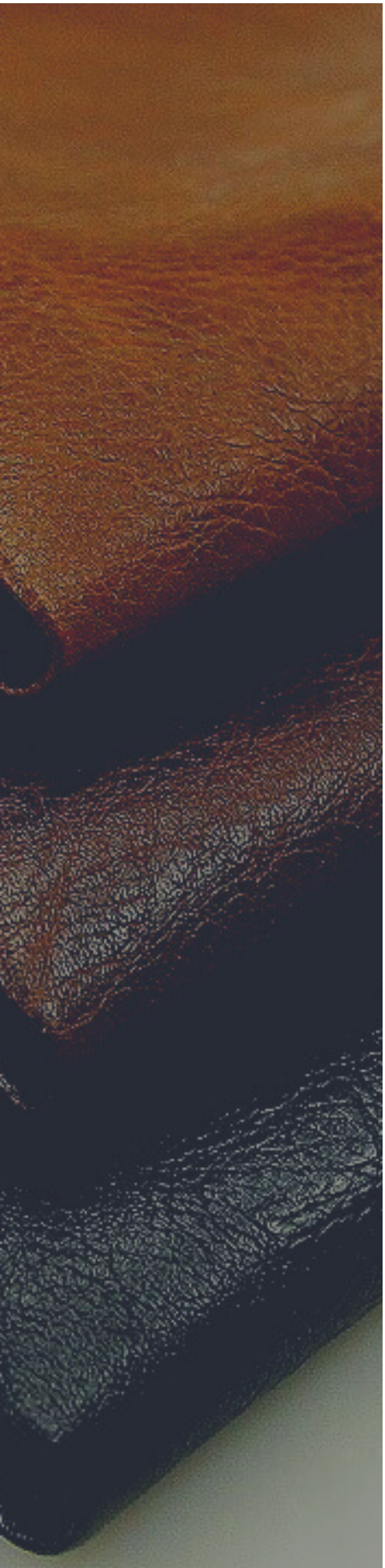
Course Content:

- Managerial process
- Planning, organizing, implementing, controlling
- Setting vision and mission statements, aim and objectives
- Strategic management

Lab Layout and Equipment



Co-funded by the
Erasmus+ Programme
of the European Union



2. Course name: How to market your products

Aim of the course

Studying market trends and prepare newer trends in the market according to the preferences and needs of the client, and correct communication with clients.

Course Content:

- Market analysis techniques
- Leather market specifications
- Marketing of companies to companies and companies to customers
- Product, price, promotion and distribution of leather products

3. Course name: Finance and bookkeeping

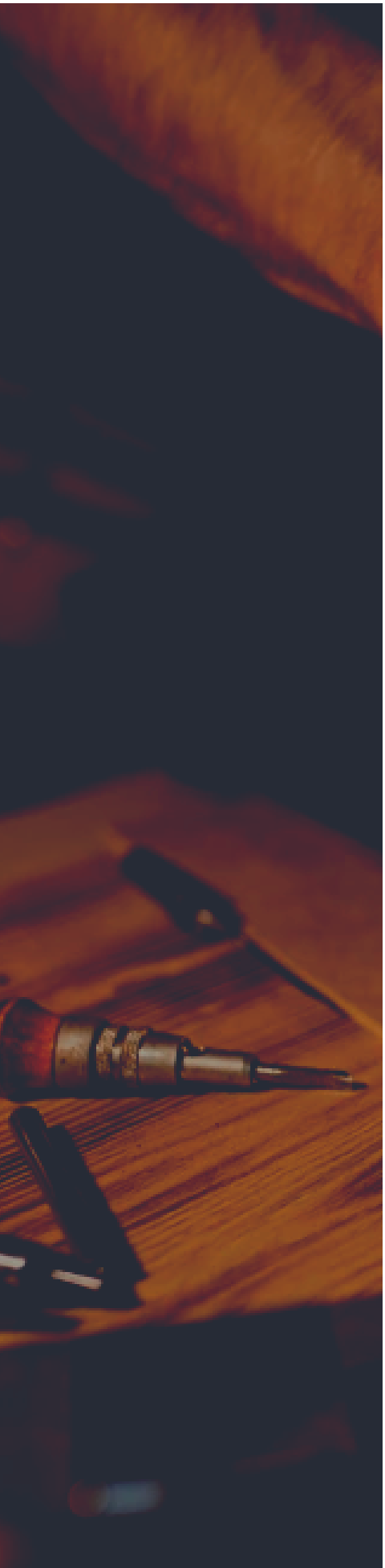
Aim of the course

Study everything related to obtaining, managing and using money, and others. Choosing the right banking institution is an essential component of financial health. In any relationship, building a strong foundation will lead to long-term success.

Course Content:

- Relationship with banks
- Economic and financial sustainability (principles)
- Public funds (European Union, national and local grants and Chamber of Commerce grants)
- Private funds (institutions and banks)
- Crowdfunding

Co-funded by the
Erasmus+ Programme
of the European Union



II. AASTMT Leather Technology Center Tests:

Test name	Leather - Physical and Mechanical Tests - Determination of Thickness
Standard number	ISO 2589:2016(E), IULTCS/IUP 4:2016(E)
Scope	Determining the thickness of leather. This method is applicable to all types of leather of any tannage. The measurement is valid for both the whole leather and a test sample.

Test name	Leather - Physical and Mechanical Tests - Determination of Apparent density and mass per unit area
Standard number	ISO 2420:2017(E), IULTCS/IUP 5:2017(E)
Scope	Determining the apparent density and mas per unit area of leather. It is applicable to all leathers.

Test name	Leather - Physical and Mechanical Tests - Determination of tensile strength and percentage extension
Standard number	ISO 3376:2011(E), IULTCS/IUP 6:2011(E)
Scope	Determining the tensile strength, elongation at a specified load and elongation at break of leather. It is applicable to all types of leathers.

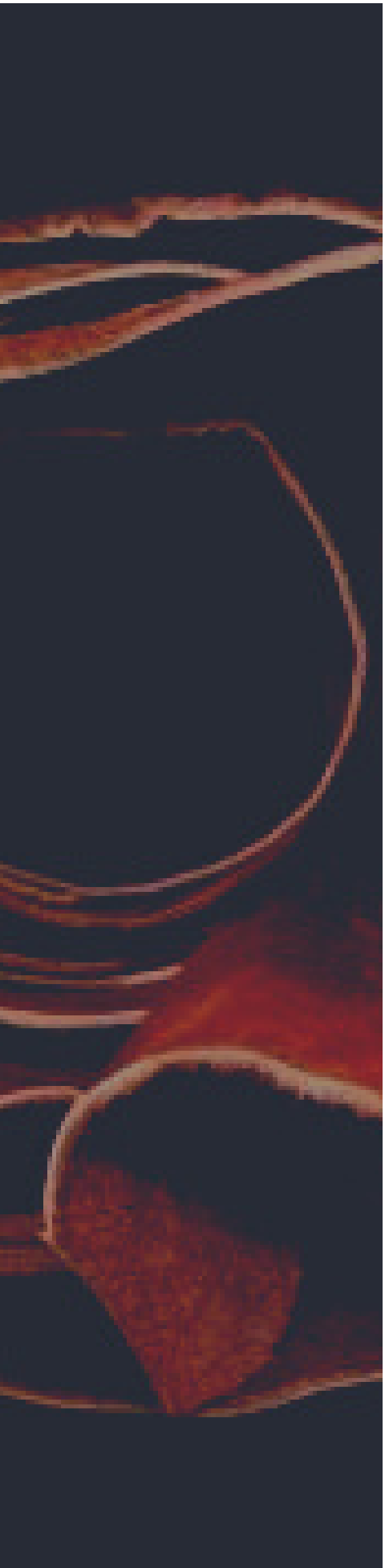
Test name	Leather - Physical and Mechanical Tests - Determination of tear load - Single edge tear
Standard number	ISO 3377-1:2011(E), IULTCS/IUP 40-1:2011(E)
Scope	Determining the tear strength of leather using a single edge tear. Sometimes is described as a trouser tear. It is applicable to all types of leather

Test name	Leather - Physical and Mechanical Tests - Determination of tear load - Double edge tear
Standard number	ISO 3377-2:2016(E), IULTCS/IUP 8:2016(E)
Scope	Determining the tear strength of leather using a double edged tear. Sometimes is described as a Baumann tear. It is applicable to all types of leather

Test name	Leather - Physical and Mechanical Tests - Measurement of stitch tear resistance
Standard number	ISO 23910:2019(E), IULTCS/IUP 44:2019(E)
Scope	Determining the stitch tear resistance of leather. It can be used on all leathers but it is particularly suitable for leathers over 1.2 mm in thickness.

Test name	Leather - Test for adhesion of finish
Standard number	ISO 11644:2009(E), IULTCS/IUP 44: 2009(E)
Scope	Measuring the adhesion of the finish to leather or the adhesion between two adjacent layers of finish. The method is valid for all finished leathers with a smooth surface that can be bonded to an adherent plate without the adhesive penetrating into the finish. Preliminary experiments might be necessary to determine whether these conditions are met. This test method is valid for finished leathers with a finish-coat thickness of at least 15 µm.

Co-funded by the
Erasmus+ Programme
of the European Union



II. AASTMT Leather Technology Center Tests:

Test name	Leather - Determination of flex resistance - Flexometer method
Standard number	ISO 5402-1:2017(E), IULTCS/IUP 20:2017(E)
Scope	Determining the wet or dry flex resistance of leather and finishes applied to leather. It is applicable to all types of flexible leather below 3.0 mm in thickness.

Test name	Footwear - Test Methods for upper and lining - Flex resistance
Standard number	ISO 17694:2016(E)
Scope	Determining the flex resistance of uppers and lining irrespective of the material in order to assess the suitability for the end use.

Test name	Footwear - Test methods for uppers and lining - Water vapor permeability and absorption
Standard number	ISO 17699:2003(E)
Scope	Specifying two test methods for assessing, respectively, the water vapor absorption of uppers or complete upper assembly irrespective of the material, in order to assess the suitability for the end use.

Test name	Leather - Physical and Mechanical Tests - Determination of water vapor permeability
Standard number	ISO 14268:2012(E), IULTCS/IUP 15:2012(E)
Scope	Determining of water vapor permeability of leather and provides alternative methods of sample preparation.

Test name	Leather - Physical and Mechanical Tests - Determination of water absorption by capillary action (wicking)
Standard number	ISO 19074:2015(E), IULTCS/IUP 57:2015(E)
Scope	Determining the rate of absorption of water by capillary action or wicking in leathers. Applicable to all types of leather

Test name	Leather - Physical and Mechanical Tests - Determination of water vapor absorption
Standard number	ISO 17229:2016(E), IULTCS/IUP 42:2016(E)
Scope	Determining the water vapor absorption of leather. The method is applicable for all leathers but is particularly relevant for leathers intended for footwear uppers and linings.

III. Technical Support in the following areas:

- Press-cutting for industrial scale samples
- Lab-scale Leather Tanning
- Lab-scale Leather Dyeing

IV. Consultancy Services to tanneries and leather processing companies

Co-funded by the Erasmus+ Programme of the European Union

Address: Industry Service Complex, Arab Academy for Science and Technology and Maritime, Alexandria, Egypt

Contact us: Industry Service Complex, Arab Academy for Science and Technology and Maritime,
Dr. Ahmed Shoair, Mob: +2012234007559,
Email: ahmed.shoier@aast.edu
Eng. Yassin M. Shaalan, Mob: +201006009989,
Email: yassin.shaalan@aast.edu

Visit
INNOLEA project collaboration platform and discussion forum and have the opportunity to chat with international leather experts and peers in Egypt, Jordan, Italy, Greece, Romania, Portugal and Lithuania:

http://www.innolea-forum.com/