Transport and Airport Engineering

1. **Course number and name:** 020AERGS3 Transport and Airport Engineering

2. **Credits and contact hours:** 2 ECTS credits, 1x1.25 hours

3. **Name(s) of instructor(s) or course coordinator(s):** Angele AOUAD RIZK

4. **Instructional Materials:**
   a. International Civil Aviation Organization (ICAO), (2022) Annex 14, Volume I, Aerodromes, Aerodrome Design and Operation, International Standards and Recommended Practices, 9th Edit.
   b. International Civil Aviation Organization (ICAO), (2020), Aerodrome design Manual, Doc 9157-AN/901, latest Edit.
   c. A.Kazda, R.E.Caves, Airport Design and Operation, 3rd Edit., Elsevier.
   d. N.J.Ashford, H.P.M.Stanton, P. Coutu, J.R.Beasley, Airport Operations, 3rd Edit., Mc Graw Hill.

5. **Specific course information**
   a. **Catalog description:** This course offers the students a systematic approach to the essential structures in the design of an airport. It covers all the necessary subjects where a civil engineer can intervene for a better exploitation at the level of the airport platforms or with airline companies. At the end of the course, students will be able to carry out the sizing of an aerodrome or to undertake its execution. On the other hand, students will also be familiar with aeronautical management.

   b. **Prerequisites or co-requisites:** None

   c. **Required:** Required for Public Works and Transportation option.

6. **Educational objectives for the course**
   a. **Specific outcomes of instruction:**
      - Introduce the students to Airports platforms,
      - Understand the different types of pavement structure,
      - Learn how to define the Obstacle Limitations services with the obstacles around the airport,
      - Familiarize the student with the ACN/PCN method, ACR/PCR method,
      - Present to the students the different navigation aids used at airports,
      - Present the different terminals and hangars at airports.

b. PI addressed by the course:

PI	2.2	3.1	3.2	4.1	5.1	5.2	6.1
Covered	yes	yes	yes	yes	yes	yes	yes
Assessed							

7. Brief list of topics to be covered:
- Introduction (2:30 hours)
- Aerodrome Data (2:30 hours)
- Physical Characteristics of an Aerodrome (2:30 hours)
- Obstacle Limitations Services (2:30 hours)
- Aeronautical Pavements (2:30 hours)
- Strength of Pavements, Introduction to ACN/PCN method (2:30 hours).
- Visit to Beirut International Airport (Freight Stations, Control Tower and Technical Blocks, Navigation Aids, Lightings) (2: 30 hours).