# MGMT412e Airport Planning and Design

**Level:** 4

**Credit Units:** 5 Credit Units

**Language:** ENGLISH

**Presentation Pattern:** EVERY SEMESTER

**E-Learning:** BLENDED - Learning is done MAINLY online using interactive study materials in Canvas. Students receive guidance and support from online instructors via discussion forums and emails. This is supplemented with SOME face-to-face sessions. If the course has an exam component, this will be administered on-campus.

**Synopsis:**

The principles of airport planning and design are studied. This course covers essential elements of current U.S. and international airport planning and design trends, including airport master planning and layout plans, geometric design and layout of the airfield and terminal facilities, obstruction analysis, signage and lighting, forecasting, airside and landside interface, and capacity and delay effects. The course also focuses on environmental planning, such as hazardous wildlife attractants, airport noise, and compatible land use.

**Topics:**

- Introduction: Understanding the Airport Planning Process
- Aircraft Characteristics Related to Airport Design
- Airport Master Planning
- Air Traffic Control, Lighting, and Signing
- Airport Capacity and Configuration
- Geometric Design of the Airside
- Passenger Terminal Design
- Air Cargo Facility Design
- Environmental Considerations on Airport Planning and Design
- Airport Access
- International Planning and Design

**Learning Outcome:**

- Evaluate the different types of airport planning and the planning process from the national, state, and local level.
- Understand the role of airport planning and design in reducing runway incursions and surface incidents, and increasing airfield efficiency.
- Compare airport capacity with the existing and forecasted demand and ascertain whether improvements to increase capacity are needed.
- Analyze airside planning and design concepts. Determine the number and orientation of runways, taxiways, signage, and lighting. Evaluate airport geometric sizing based on various design components
- Analyze landside planning and design concepts, airport terminal concepts, and apply airport design parameters in the placement and sizing a terminal for optimum passenger flow, aircraft compatibility; and changes in aircraft fleet mix.
- Identify the factors of landside access and egress including intermodal transportation systems to achieve an orderly flow of traffic at the facility. Planning issues related to airport ground access improvements will be examined.
- Identify the effect cargo operations have on an airport, the extent of facilities needed, and the considerations of future growth.
- Evaluate the impact environmental issues have on airports and how the federal environmental program assists airports with the implementation of the NEPA & other Federal environmental laws and regulations.
- Recognize international differences in planning and design. Understand the physical differences of airport design, including terminal facilities and aircraft parking. Evaluate differences in the diversity of airport planning and design decision-making, and aircraft performance criteria.

**Assessment Strategies (Evening Class):**

| **Components** | **Description** | **Weightage Allocation (%)** |
|---|---|---|
| Overall Continuous Assessment | TUTOR-MARKED ASSIGNMENT 1 | 100 |
| **Total** | | **100** |