

Course Descriptions

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| 01225111 | Basic Mathematic in Aviation Algebra. Functions and graphs. Limit and continuity. Derivatives. Integration. Applications in aviation technology management. | 3(3-0-6) |
| 01225121 | Aviation Organization Management Principles of aviation organization management. Organizational culture and the environment. Ethics and social responsibility in aviation organization. Planning and continuous improvement. Strategic planning. Organizational structure and work system. Organizational behavior. Teamwork and leadership. Human resource management. Managerial decision making. | 3(3-0-6) |
| 01225141 | Basic Science in Aviation Matter. Forces and motion. Momentum. Energy, work and power. Simple machines. Thermal properties and temperature. Pressure and gas laws. Fluid mechanics. Wave, light, and sound. Basic electricity. Basic theory of flight. | 3(3-0-6) |
| 01225142 | Aerodynamics and Flight Performance Prerequisite: 01225141 Fundamental of aerodynamics. Principle of flight. Flight stability and control. Aircraft weight and balance. Performance of fixed wing aircraft. Performance charts and tables. Fuel calculation. | 3(3-0-6) |
| 01225151 | Aviation Terminology Aviation terminology related to aviation organization, principle of flight, air navigation, air traffic services, airport, airline, and aircraft maintenance. | 3(3-0-6) |
| 01225161 | Principles of Aviation System Civil aviation structure and ecosystem. Commercial air transport. General Aviation. Airport services. Air navigation services. Aircraft manufacturing. Aircraft maintenance. Aviation training. Civil aviation regulatory system. National policies and strategies in civil aviation. | 3(3-0-6) |
| 01225162 | Aviation Law and Regulation Policy and civil aviation development. Policy administration system. Civil aviation regulation system. Relationship between policy administration system and regulation system. Civil aviation law hierarchy, structure, and system. International aviation law and regulations. Law implementation and enforcement. Law and regulations development. | 3(3-0-6) |
| 01225212 | Statistical Analysis in Aviation Statistical description of data. Sampling distributions and estimation. Basic probability concept. Discrete and continuous probability distributions. Hypothesis testing. | 3(2-3-6) |

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| 01225213 | Quantitative Analysis in Aviation | 3(3-0-6) |
| | Prerequisite: 01225212 | |
| | Linear programming. Simple linear regression. Multiple linear regression. Model formulation and analysis. Time series analysis. Decision making concepts. Application of quantitative analysis for aviation industry. | |
| 01225231 | Aviation Economics | 3(3-0-6) |
| | Principles of macro and micro economics in air transportation, economics and market systems, aviation supply and demand, aviation market structure, significant elements in air transportation and its relationship in economic systems. | |
| 01225232 | Aviation Marketing | 3(3-0-6) |
| | Principles of marketing and implication on aviation organization, aviation marketing concepts, consumer and passenger behavior, marketing strategy analysis and formulation in aviation industry. | |
| 01225244 | Aviation Meteorology | 2(2-0-4) |
| | Characteristic, pressure, air front and motion of the atmosphere. Formation of cloud. Aviation weather hazard. Visibility. Weather analysis and forecasts. Weather charts. Meteorological services for international air navigation. | |
| 01225246 | Air Traffic Management | 3(3-0-6) |
| | Context of Air traffic management. Air space management. Air traffic separation. Air traffic regulation. Air traffic flow management. Alerting service. Flight information service. Air traffic control service. Future of air traffic management. | |
| 01225247 | Air Navigation and Communication | 2(2-0-4) |
| | Air navigation maps, International Civil Aviation Organization navigation requirement and procedures, international aeronautical telecommunication services, radio communication theory, radio navigation services, and automated navigation services. | |
| 01225251 | Aviation Professional Development | 3(3-0-6) |
| | Interpersonal skill development. Personal and team work development. Leadership. Aviation managerial professional development. | |
| 01225252 | Human Factors in Aviation | 3(3-0-6) |
| | Human performance and limitations. Social psychology. Factors affecting performance. Physical environment. Tasks. Communication. Human error. Threat and error management. Hazards in the workplace. Crew resource management. | |

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| 01225281 | Aircraft General Knowledge | 3(3-0-6) |
| | Airframe structure. Flight controls systems. Landing gears systems. Aircraft engine. Hydraulic systems. Air conditioning and pressurization systems. Oxygen systems. Ice and Rain protection systems. Fire protection systems. Fuel systems. Aircraft Instrument systems. Communication systems. Navigation systems. Auto Flight systems. | |
| 01225312 | Data Analysis and Visualization for Aviation Management | 3(3-0-6) |
| | Prerequisite: 01225212 | |
| | Introduction to Information Systems, Knowledge and Database management in Aviation Industry. Data analysis and visualization. Data quality. Data preprocessing. Data interpretation. | |
| 01225314 | Aviation Integrative Learning | 3(2-2-5) |
| | Individual and group activities for skill development of analytical thinking. Systematic thinking. Design thinking. Critical thinking. Knowledge integrated project. | |
| 01225321 | Aviation Operations Management | 3(3-0-6) |
| | Concepts of operations management in aviation. Product and service design. Process analysis. Forecasting. Production planning. Capacity planning. Aviation enterprise resource planning. Quality management for aviation industry. | |
| 01225322 | Aviation Management and Strategy | 3(3-0-6) |
| | Prerequisite: 01225121 | |
| | Strategy in aviation industry, business environment analysis, strategy formulation, strategy implementation, and strategy evaluation in aviation industry. | |
| 01225331 | Aviation Business Accounting and Finance | 3(3-0-6) |
| | Financial planning and analysis. Cash management. Accounting concepts and principles. Management accounting for aviation business. Accounting and cash control. Principles of managerial accounting. Behaviour of costs and cost-volume-profit relationship. Full costing. Variable costing. Standard costing and production costs variance analysis. Use of accounting information and financial report for managerial decision making. | |
| 01225341 | Flight Operations and Planning | 3(3-0-6) |
| | Prerequisite: 01225142 | |
| | Flight planning charts and tables, calculation of flight time and fuel consumption, route selection, documentation in flight operations, flight monitoring, flight equipment failures, emergency situations, and flight monitoring resources. | |

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| 01225353 | Aviation Safety Prerequisite: 01225162 Fundamental of aviation safety. Accident causation and prevention theories. Evolution of aviation safety thinking. Economics impact of aviation safety. Introduction to risk and safety management. | 3(3-0-6) |
| 01225354 | Aviation Quality System Principle of quality management for aviation industry. Quality management system. Aerospace standard. Quality assurance for aviation industry. | 3(3-0-6) |
| 01225361 | Aviation Logistics and Supply Chain Management Supply chain and logistics management concepts in aviation industry. Materials handling system. Aviation inventory management. Capacities planning. Locating distribution centers of air transportation. | 3(3-0-6) |
| 01225371 | Airline Operations and Management Airline management. Airline business planning. Airline profitability. Airline marketing. Airline fleet and route network planning. Airline scheduling. Airline flight operations. Airline ground handling. Principles of Air cargo business. Air cargo operations. Airline supply chain management. | 3(3-0-6) |
| 01225372 | Airport Operations and Management Airport management. Airport cost and revenue structure. Airport capacity. Airport safety and security. Airport environment management. Airport operation and performance. | 3(3-0-6) |
| 01225373 | Airport Safety and Security Procedures of airport safety and security program development, aircraft and airport facilities, airport safety and security committee, airport inspection programs, safety and security training, and protection of civil aviation against acts of unlawful interference. | 3(3-0-6) |
| 01225374 | Aviation Ground Service Operations Aviation ground handling operational concepts. Passenger handling. Cargo handling. Aircraft ramp servicing. Operational control. Ground service safety and security. | 3(3-0-6) |
| 01225381 | Aviation Maintenance Management Basic of aircraft maintenance management. Aircraft Maintenance program. Aircraft maintenance organization. Technical Documents in aircraft maintenance. Aircraft planning and scheduling. Material support. Quality Management. Reliability. Safety. | 3(3-0-6) |

- 01225382 Quality and Reliability Control in Aircraft Maintenance and Productio 3(3-0-6)**
Distributions and probability theory. Principle of reliability and quality in aviation. Quality control process in aircraft production and maintenance. Reliability monitoring and controlling in aircraft production and maintenance.
- 01225383 Basic Aircraft Maintenance 3(3-0-6)**
Basic electricity. Aircraft drawing. Fluid lines and fitting. Materials and process. Aircraft weight and balance. Aircraft inspection and nondestructive inspection. Tools for aircraft maintenance. Maintenance documents. Maintenance form and records. Aircraft Mechanics license. Maintenance Safety.
- 01225391 Basic Research Methods in Aviation Technology Management 1(0-2-1)**
Principles and research methods in aviation technology management, identification of research problems, formulation of research objectives and hypotheses, collection of data, construction of questionnaire, data analysis and interpretation, application of statistics for research, report writing and presentation.
- 01225471 Airline Fleet Planning 3(3-0-6)**
Prerequisite: 01225231
Principles of fleet planning: fleet selection process, fleet planning method and modeling on single sector and network. Investment appraisal.
- 01225472 Airline Revenue Management 3(3-0-6)**
Prerequisite: 01225232 and 01225331
Principles of airline revenue management. Seat inventory control. Airline revenue maximization. Pricing and revenue management. Application of forecasting concepts to airline revenue management. Airline revenue management information system.
- 01225473 Airport Planning and Development 3(3-0-6)**
Prerequisite: 01225372
Airport planning system, planning types and levels, planning processes, types and processes of planning study, financial planning, airport master plan, local airport planning.
- 01225474 Airport Systems and Design 3(3-0-6)**
Introduction to airport design. Airport systems. Airport systems planning and airport design. Regulations related to airport standards. Design standards of the airside, passenger terminals, airport access, and airport facilities. Capacity analysis of existing and future airport design.
- 01225481 Aircraft Structures 3(3-0-6)**
Aircraft structures. Metallic and composite materials. Helicopter structures. Flight control systems. Aircraft assembly and rigging. Aircraft structure inspection. Aircraft structure repair. Aircraft cleaning and corrosion control.

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| 01225482 | Aircraft Propulsive Systems Reciprocating engines. Gas turbine engines. Engine fuel systems. Induction and exhaust systems, Engine ignition systems. Engine lubrication systems. Engine starting systems. Propeller systems. Auxiliary power unit. Aircraft engine inspection and maintenance. | 3(3-0-6) |
| 01225483 | Aircraft Instrument and Avionics Systems Basic of flight instrument. Engine power and control instrument. Measure of attitude. Measurement of speed. Gyroscopic instrument. Compass systems. Communication and air navigation. Modern computer navigation system. Automatic flight control systems. Flight information systems. | 3(3-0-6) |
| 01225484 | Aircraft Systems Aircraft fuel systems. Hydraulic and Pneumatic systems. Landing gear systems. Aircraft electrical systems. Cabin environmental systems. Ice and Rain protection systems. Fire protection systems. Aircraft emergency systems. | 3(3-0-6) |
| 01225485 | Basic Practices in Aircraft Technology and Maintenance Basic practices in aircraft maintenance technology for Aviation technician or engineer. | 1(0-2-1) |
| 01225486 | Practices in Aircraft Systems and Avionics Prerequisite: 01225485 Practices in technology and maintenance of aircraft systems and avionics. | 1(0-3-2) |
| 01225490 | Co-operative Education On the job training as a temporary employee in order to get experiences from the assignment for aviation technology management. | 6 |
| 01225496 | Selected Topics in Aviation Technology Management Selected topics in aviation Technology Management at the bachelor's degree level. Topics are subjected to change each semester. | 1-3 |
| 01225497 | Seminar Presentation and discussion on current interesting topics in aviation technology management at the bachelor's degree level. | 1 |
| 01225498 | Special Problems Selected topics in aviation technology management at the bachelor's degree level and compiled into a written report. | 1-3 |
| 01225499 | Aviation Technology Management Project Project of practical interest in various fields of aviation technology management. | 3(0-9-5) |