

LIST OF SUBJECT INDEX TOPIC TITLES

AIRCRAFT TECHNOLOGY, CONVENTIONAL, STOL/VTOL

Aerodynamics	4
Cabin Environment, Crew Training, and Life Support	4
Civil Missions and Transportation	5
Configuration Design	5
Deceleration Systems	5
Economics	5
Flight Operations	5
Fuels and Fuel Systems	5
General Aviation	5
Ground Effect Machines	5
Ground Support	5
Guidance and Control	5
Handling Qualities, Stability and Control	6
Helicopters	6
Landing Dynamics	6
Lighter-than-Airships	6
Military Missions	6
Navigation, Communication, and Traffic Control	6
Noise	7
Performance	7
Powerplant Design	7
Propeller and Rotor Systems	7
Simulation	7
Structural Design (including Loads)	8
Structural Materials	8
Subsystem Design	8
Testing, Flight and Ground	8
Vibration	8

ENERGY

Alternate Fuels	9
Batteries	9
Combustion Efficiency	9
Conservation	9
Cryogenics	9
Geothermal	9
MHD	9
Microwaves	9
Nuclear Fission	9
Nuclear Fusion	9
Photovoltaic Power	9
Rotating Machinery	9
Solar Thermal Power	9
Thermionic	10
Thermoelectric	10
Wind Power	10

FLUID DYNAMICS

Aeroacoustics	10
Boundary Layers and Convective Heat Transfer—Laminar	10
Boundary Layers and Convective Heat Transfer—Turbulent	11
Boundary-Layer Stability and Transition	12
Computational Methods	12
Hydrodynamics	12
Jets, Wakes, and Viscid-Inviscid Flow Interactions	13
Multiphase Flows	14
Nonsteady Aerodynamics	14
Nozzle and Channel Flow	15
Plasma Dynamics and MHD	15
Radiatively Coupled Flows and Heat Transfer	16
Rarefied Flows	16
Reactive Flows	17
Shock Waves and Detonations	17
Subsonic Flow	18
Supersonic and Hypersonic Flow	18

Transonic Flow	19
Viscous Nonboundary-Layer Flows	20
Wave Motion and Sloshing	20

INTERDISCIPLINARY TOPICS

Aerospace Technology Utilization	20
Analytical and Numerical Methods	21
Atmospheric and Space Sciences	21
Computer Communications, Information Processing and Software	21
Computer Technology	21
Human Factors	21
Lasers	22
Reliability, Maintainability, and Logistics Support	22
Research Facilities and Instrumentation	22
Safety	23
Satellite Communication Systems (including Terrestrial Stations)	23
Sensor Systems	23
Space Processing	23

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

LV/M Aerodynamic Heating and Ablation	24
LV/M Aerodynamics	24
LV/M Command and Information Systems	24
LV/M Configurational Design	24
LV/M Dynamics and Control	24
LV/M Guidance	25
LV/M Propulsion and Propellant Systems	25
LV/M Simulation	25
LV/M Structural Design (including Loads)	25
LV/M Testing, Flight and Ground	25
LV/M Trajectories and Tracking Systems	25
LV/M Vibration	25
Launch Vehicle Systems	25
Missile Systems	25
Sounding Rocket Systems	25

MARINE TECHNOLOGY

Marine Hydrodynamics, Vessel and Control Surface	25
Marine Mooring Systems and Cable Mechanics	25
Marine Propulsion	25
Marine Vessel Design (including Loads)	26
Marine Vessel Systems, Submerged and Surface	26
Marine Vessel Trajectories, Stability and Control	26
Oceanography, Physical and Biological	26

PROPULSION

Airbreathing Propulsion	26
Combustion and Combustor Designs	26
Combustion Stability, Ignition, and Detonation	27
Electric and Advanced Space Propulsion	27
Engine Performance	27
Environmental Effects	27
Fuels and Propellants, Properties of	28
Liquid Rocket Engines and Missile Systems	28
Nuclear Propulsion Systems	28
Propulsion for Marine Application	28
Solid and Hybrid Rocket Engines	28
Support Systems	28

SPACECRAFT TECHNOLOGY

Data Sensing, Presentation, and Transmission	28
Earth-Orbital Trajectories	28
Entry Vehicle Dynamics and Control	29
Entry Vehicle Mission Studies and Flight Mechanics	29
Entry Vehicle Testing, Flight and Ground	29
Entry Vehicles and Landers	29
Extra-Vehicular Activity	29
Lunar and Interplanetary Trajectories	29
Meteoroid and Radiation Protection	29
Spacecraft Configurational and Structural Design (including Loads)	29
Spacecraft Dynamics and Control	29
Spacecraft Electric Power	29
Spacecraft Missions and Economics	30
Spacecraft Navigation, Guidance, and Flight-Path Control	30
Spacecraft Propulsion Systems Integration	30
Spacecraft Signatures and Tracking	30
Spacecraft Simulation	30
Spacecraft Sterilization	30
Spacecraft Systems	30
Spacecraft Temperature Control	30
Spacecraft Testing, Flight and Ground	30
Space Medicine (including Weightlessness, Radiation Effects, Psychology, etc.)	31
Space Station Systems, Manned	31

STRUCTURAL MECHANICS AND MATERIALS

Aeroelasticity and Hydroelasticity	31
Materials, Properties of	31
Structural Composite Materials	31
Structural Design	32
Structural Durability (including Fatigue and Fracture)	32
Structural Dynamics	32
Structural Stability	33
Structural Statics	33
Thermal Stresses	33

THERMOPHYSICS AND THERMOCHEMISTRY

Ablation, Pyrolysis, Thermal Decomposition and Degradation (including Refractories)	33
Experimental Methods of Diagnostics	34
Heat Conduction	34
Heat Pipes	34
Radiation and Radiative Heat Transfer	34
Thermal Control	35
Thermal Modeling and Analysis	35
Thermal Surface Properties	35
Thermochemistry and Chemical Kinetics	35
Thermophysical Properties of Matter	36