

Bachelor of Science in Aviation Option in Aviation Management

Last Updated: July 24, 2014

Advising packet:

List of courses

Course descriptions

Academic Planner

Major Form

GE Worksheet

Aviation and Technology Department

College of Engineering
San Jose State University
One Washington Square
San Jose, CA 95192-0061

fred.barez@sjsu.edu

408 924-3190

<http://www.sjsu.edu/avtech/>

Program Overview for the B.S. Aviation with option in Aviation Management

(program appropriate for students with career goals in airport, transportation,
or aviation industry management)

Required Courses in Aviation

Lower Division Courses

18 units

- Avia 002: Introduction to Aviation
- Avia 031: Aircraft Theory and Design
- Avia 042: Aircraft Systems
- Avia 043: Propulsion Theory
- Avia 073: Air Traffic Control
- Avia 078: Introduction to Aviation Management

Upper Division Courses

57 Units

- Avia 128: Aviation Safety and Security
- Avia 141: Human Factors in the Aviation Environment (Biol 141)
- Avia 173: Aviation Law
- Avia 176: Airline Operations and Management
- Avia 177: General Aviation Operations and Management
- Avia 178: Airport Planning and Management
- Bus 130: Introduction to Marketing
- Bus 140: Fundamentals of Operations Management
- Bus 146: Project Management
- Bus 150: Fundamentals of Human Resource Management
- Bus 151: Labor Relations
- Bus 167: Managing Environmental Issues
- Bus 170: Fundamentals of Finance
- UrbP 103: Local Government and Politics
- UrbP 136: Introduction to Land Use and Facilities Planning
- Bus 186: Professional and Business Ethics (Phil 186)
- Tech 198: Technology and Civilization
- Engr 100W: Engineering Reports
- Avia 190: Senior Capstone Seminar

Support Courses

26-27 Units

- Bus 20 or 20N (3)
- Bus 90 (3)
- Chem 30A and Chem 30B (6) * or Chem 1A (5)
- Phys 2A and Phys 2B (8) ** or Phys 50 and Phys 51 (8)
- Math 71 (3) *** or Math 30P (5) or Math 30 (3)
- Econ 1B (4)

Optional Minor in Business Management

A minor in Business is popular and very valuable for Aviation majors. Students electing to complete the Business minor should meet with their Aviation advisor to assure correct course selections and paperwork. No additional courses are usually required for this minor.

Course Descriptions for the B.S. Aviation with option in Aviation Management

Lower Division

AVIA 002: Introduction to Aviation

Description: Concepts, responsibilities, and professional ethics of an aviation professional. History of aviation, FAA certification, qualifications and privileges of aviation professionals. Career opportunities, career paths and progression.

AVIA 031: Aircraft Theory and Design

Description: Aerodynamics and aeroelastics force. Load analysis of flight vehicles. Aircraft design optimization, material selection along with, safe-life, fail-safe and damage tolerance in design. Prerequisite: PHYS 2A, MATH 71. Misc/Lab: Lecture 2 hours/Lab 3 hours.

AVIA 042: Aircraft Systems

Description: Operational and analytical aspects of key aircraft systems such as propulsion, flight control, electrical, and hydraulic. Reliability and maintainability concepts related to the design of aircraft systems. Emphasis is placed on general aviation aircraft. Prerequisite: PHYS 2A, AVIA 2. Misc/Lab: Lecture 2 hours/lab 3 hours.

AVIA 043: Propulsion Theory

Description: Propulsion theory of piston engines. Aircraft fuel systems and components. Fundamental systems, maintainability, and reliability methods. Aviation regulations related to engines. Maintenance cycles for engines and components. Prerequisite: PHYS 2A. Misc/Lab: Lecture 2 hours/lab 3 hours.

AVIA 073: Air Traffic Control

Description: Air Traffic Control System Structure and Communications. Current configuration and future design of the National Airspace System. Oceanic and International Air Traffic Control. Automation issues and Emerging Technologies. Prerequisite: AVIA 2.

AVIA 078: Introduction to Aviation Management

Description: History of aviation management. Safety, security, community relations, aviation unions, and private and governmental relationships. National Airspace System. Future Airspace System. International airspace systems.

Lower Division Aviation Courses total 24 units

Upper Division

AVIA 128: Aviation Safety and Security

Description: Safety in aviation design, operation, and maintenance; hazardous materials; airport environment issues; security regulations for aviation. Prerequisite: AVIA 2.

AVIA 141: Human Factors in the Aviation Environment (Biol 141)

Description: Effects of time zone changes, sleep disruption, drugs on pilot performance. Role of FAA inspectors, physicians, cabin attendants, unions. Cockpit crew coordination; pilot psychology; aviation safety and accident investigation. Experimental avionics. Prerequisite: Upper division standing. Notes: Not an elective in most department majors.

AVIA 173: Aviation Law

Description: Law and legal issues in aviation from both a national and international perspective. Rights and responsibilities of individuals, organizations, and the aviation community. Regulations and liability pertaining to the design, manufacture, operation and maintenance of aircraft. Prerequisite: AVIA 78.

AVIA 176: Airline Operations and Management

Description: Aspects of managing air transportation companies. Integration of technical, environmental, market and regulatory considerations in the decision-making process in airline management. Future planning techniques. Prerequisite: AVIA 78, BUS 140.

AVIA 177: General Aviation Operations and Management

Description: Aspects of managing general aviation companies, such as the structure of the general aviation industry, supply and demand of products, and technical and regulatory constraints. Prerequisite: AVIA 78, BUS 140.

AVIA 178: Airport Planning and Management

Description: Design, planning, and management of airports in the US including airport development and airport design. Legal responsibilities as an airport manager. Issues and regulations applicable to airport planning and management. Prerequisite: AVIA 78.

AVIA 179: Advanced Airport Planning and Management

Description: Noise generation and abatement. Leasing and property management including the impact of federal regulations. Concession planning. Use of technology to increase efficiency and security in airports. Prerequisite: AVIA 78.

AVIA 190: Senior Capstone Seminar

Description: Current industry analysis and career development; leadership skills for an aviation professional. Aviation standard procedures. Ethical principles for Aviation. Student projects related to Aviation major. Prerequisite: Graduating senior, major form completed.

Upper Division Aviation Courses total 54 units

Business courses for the major	24
Other courses for the major outside of Aviation	12
Support Courses in Math, Chemistry, Physics, Economics, and Business	26-27
<hr/>	
Units for the degree	132

Major Academic Plan

Major: Aviation with an Option in Aviation Management

Degree: BS

This sheet is available electronically on the "All Major Forms" page of the AvTech website

*implementation date: August 25, 2014
last updated September 5, 2014*

First Year

Meet with your advisor each semester.

Fall Semester 20__		
Course	Prerequisites	Area Units
Avia 002	----	Major 3
GE Area E	----	GE E 3
Math 071	Math 008 or Equivalent	GE B4 3
AMS 1A	----	GE C1, D2 6
		Semester Total: 15

Spring Semester 20__		
Course	Prerequisites	Area Units
Engl 001A	----	GE A2 3
AMS 1B	AMS 1A	GE C2, D3 6
Phys 002A *	Math 008 or Equivalent	GE B3 4
Avia 073	Avia 2	Major 3
		Semester Total: 16

Second Year

Fall Semester 20__		
Course	Prerequisites	Area Units
GE Area A1 course *	----	GE A1 3
Avia 042	Phys 2A, Avia 2	Major 3
Phys 002B *	Phys 2A	GE 4
Avia 078	----	Major 3
		Semester Total: 13

Spring Semester 20__		
Course	Prerequisites	Area Units
Avia 031	Phys 2A, Math 71	Major 3
Avia 043	Phys 2A	Major 3
Chem 001A **	See Catalog	GE B1 5
Bus 020 or 020N		Minor 3
		PASS THE WST
		Semester Total: 14

Third Year

Fall Semester 20__		
Course	Prerequisites	Area Units
Bus 170	Bus 20 or 20N	Major 3
Bus 090	Math 71	Minor 3
Urpbp 136	----	Major 3
GE Area A3 course *	----	GE A3 3
		Semester Total: 12

Spring Semester 20__		
Course	Prerequisites	Area Units
Avia 128	Avia 2	Major 3
Avia 173	Avia 78	Major 3
Engr 100W **	ENGL 1B, Pass WST, Upper Division	GE R, Z 3
Avia 176	Avia 78, [Bus 140]--see advisor	Major 3
		Semester Total: 12

Fourth Year

SAN JOSE STATE UNIVERSITY - DEPARTMENT OF AVIATION AND TECHNOLOGY
Bachelor of Science in AVIATION

MAJOR FORM FOR B.S. AVIATION

Proposed Date of Graduation:

Option: AVIATION MANAGEMENT

NAME:

Student ID:

Maximum Number of Units for the Degree: 132

Catalog:

REQUIRED COURSES FOR THE MAJOR

ALT. INST.	COURSE NUMBER.	COURSE TITLE	UNITS	GRADE	ALT. INST.	COURSE NUMBER.	COURSE TITLE	UNITS	GRADE
	Avia 002	Introduction to Aviation	3			Bus 130	Introduction to Marketing	3	
	Avia 031	Aircraft Theory and Design	3			Bus 140	Fundamentals of Operations Management	3	
	Avia 042	Aircraft Systems	3			Bus 146	Project Management	3	
	Avia 043	Propulsion Theory	3			Bus 150	Fundamentals of Human Resource Management	3	
	Avia 073	Air Traffic Control	3			Bus 151	Labor Relations	3	
	Avia 078	Introduction to Aviation Management	3			Bus 167	Managing Environmental Issues	3	
	Avia 128	Aviation Safety and Security	3			Bus 170	Fundamentals of Finance	3	
	Avia 141	Human Factors in the Aviation							
	Avia 173	Aviation Law	3			Bus 186	Professional and Business Ethics	3	
	Avia 176	Airline Operations and Management	3			Engr 100W	Engineering Reports	3	
	Avia 177	General Aviation Operations and Management	3			Tech 198	Technology and Civilization	3	
	Avia 178	Airport Planning and Management	3			UrbP 103	Local Government and Politics	3	
	Avia 179	Advanced Airport Planning and Management	3			UrbP 136	Introduction to Land Use and Facilities Planning	3	
	Avia 190	Senior Capstone Seminar	3						

APPROVED UPPER DIVISION ELECTIVES FOR THE MAJOR

ALT. INST.	COURSE NUMBER.	COURSE TITLE	UNITS	GRADE	ALT. INST.	COURSE NUMBER.	COURSE TITLE	UNITS	GRADE

PREPARATION FOR THE MAJOR

ALT. INST.	COURSE NUMBER.	COURSE TITLE	UNITS	GRADE	ALT. INST.	COURSE NUMBER.	COURSE TITLE	UNITS	GRADE
	Econ 1B	Principles of Economics: Microeconomics	3			Math 71	Calculus for Business and Aviation	3	
OR	Bus 20	Financial Accounting	3			Phys 2A	Fundamentals of Physics	4	
	Bus 20N	Survey of Accounting	3			Phys 2B	Fundamentals of Physics	4	
	Bus 90	Business Statistics				Chem 1A	General Chemistry	5	

Support Courses:

Chem 1A may be used to substitute for Chem 30A and Chem 30B
 Math 30 may be used to substitute for Math 71
 Phys 50 and Phys 51 may be used to substitute for Phys 2A and Phys 2B

The student listed above will have completed all the departmental requirements for the Bachelor of Science degree

- (a) Successful completion of the above work.
- (b) An audit of the student's transcript of record to verify that all appropriate data have been entered accurately.
- (c) A minimum 2.0 GPA has been achieved in all AVIATION COURSES.
- (d) A grade of C- or better is required for all courses used to satisfy any major, minor, or preparation courses.

SIGNATURE OF MAJOR ADVISOR

SIGNATURE OF Chair
Department of Aviation and Technology

DATE SUBMITTED:

DATE SUBMITTED:

