EMBRY-RIDDLE AERONAUTICAL INSTITUTE

BULLETIN 1968-69

DAYTONA BEACH, FLORIDA

ENGINEERING • FLIGHT • MANAGEMENT • MAINTENANCE

The World's Most Famous Aeronautical School
At The
World's Most Famous Beach

"THE UNIVERSITY OF THE AIR"

Embry-Riddle Aeronautical Institute is located at the Daytona Beach Municipal Airport — in the center of a complex metropolitan area. Daytona Beach is widely known as the nation's vacation capital. Twenty miles of hard-packed sand beach is publicly owned, offering unequalled opportunities for scenic drives, delightful swimming, challenging surfing or simply basking in the sun. Fresh and salt water fishing here is unequalled. Since the start of automobile racing on its wide beach, the area has become renowned as the "World's Most Famous Beach." The area has fine churches and schools, modern hospitals and splendid parks. It is within easy driving distance of Cape Kennedy, Silver Springs, Cypress Gardens, Marineland and many other celebrated attractions. The city is easily accessible from any point in the nation by bus, train or plane.

Jack R. Hunt, Harmon Trophy Award for Aeronaut, 1957; Board of Trustees, Aerospace Education Foundation.

A Message to Young Men and Women:

Education — especially aviation education — is a serious business. If you believe that you want to become a part of the rapidly growing and exciting field of aviation, you must be prepared to devote your time and your energy to acquiring the knowledge necessary for this exacting career.

Now, in the "air age" there is a growing list of demands for pilots, engineers, mechanics, administrators, and other related professional jobs. Young men and women with education and imagination will be needed to fill these responsible positions in a growing industry.

There is no short cut to success . . . an education is a good beginning. We at Embry-Riddle are dedicated to the concept that youth must be served . . . provided youth will serve itself.

There is a tremendous challenge in aviation . . . are you ready to accept that challenge?

Sincerely,

Jack R. Hunt

Jack R. Hunt
President

EMBRY-RIDDLE AERONAUTICAL INSTITUTE, "The University of the Air" presently under construction at the Municipal Airport, Daytona Beach, Florida. The $25 million complex is scheduled for completion by year 1976. The campus includes facilities for specialized aviation education programs in Engineering, Management, Maintenance and Flight. The first of three dormitory wings (shown below) will be ready for occupancy in September, 1968.

CONTENTS

EMBRY-RIDDLE AERONAUTICAL INSTITUTE
CALENDAR

FALL TRIMESTER — 1968

August 29	Students requiring Placement or Bypass/Advanced Standing Examinations report to Admissions Office (9:00-12:00 A.M.)
August 30	Administration of examinations (Placement, Bypass and Flight)
September 3-6	Counselling and Registration
September 7	Orientation
September 9	Classes begin
September 13	Last day of drop/add period
October 4	Last day to withdraw with grades of "W"
October 18	Last day to make up incomplete ("I") grades
October 29-30	Mid-trimester registration
October 31	Mid-trimester classes begin
November 1	Mid-term grades
November 28-29	Thanksgiving Holiday. Institute closed.
December 16-20	Final examinations
December 20	End of trimester

SPRING TRIMESTER — 1969

January 3	All entering students report to Admissions Office (9:00-12:00 A.M.)
January 3	Administration of examinations (Placement, Bypass and Flight)
January 4-6	Registration and orientation
January 7	Classes begin
January 13	Last day of drop/add period
February 3	Last day to withdraw with grades of "W"
February 17	Last day to make up incomplete ("I") grades
February 25-26	Mid-trimester registration
February 27	Mid-trimester classes begin
February 28	Mid-term grades
April 12-17	Final examinations
April 18	Convocation and commencement. End of trimester.

SUMMER TRIMESTER — 1969

April 29	All entering students report to Admissions Office (9:00-12:00 A.M.)
April 30	Administration of examinations (Placement, Bypass and Flight)
May 1-2	Registration and orientation
May 5	Classes begin
May 9	Last day of drop/add period
May 30	Last day to withdraw with grades of "W"
June 13	Last day to make up incomplete ("I") grades
June 24-25	Mid-trimester registration
June 26	Mid-trimester classes begin
June 27	Mid-term grades
July 3-4	Independence Day Holiday. Institute closed.
August 11-15	Final examinations
August 15	End of trimester

Embry-Riddle Aeronautical Institute operates on a plan whereby the school calendar is divided into three 15-week trimesters each year. Classes are in session five and one-half days per week, Monday through Saturday noon.

Students applying for Maintenance Technology courses and degree curriculums in Aircraft Maintenance Engineering and Aircraft Maintenance Management may choose to enter either at the start of a trimester *or* at the mid-trimester registration period.

BOARD OF TRUSTEES

The Board of Trustees is composed of national, state and local members of prominence devoted to the education of young people in aviation skills. These members serve without reimbursement and give freely of their time in establishing broad policy and providing guidance to the administration in the furtherance of the educational goals and objectives of the Institute.

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A.A., Compton Jr. College; B.S. Pepperdine College; M.S., Barry College; Commercial Pilot, LTA and HTA

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B.S., U. S. Military Academy; Commercial Pilot with Instructor and Instrument Rating

Ethel V. Cornelius.....Secretary
B.S., Carnegie Institute of Technology

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B.Ae.E., Polytechnic Institute of Brooklyn; M.S., Hofstra University; M.B.A., University of California, Los Angeles

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B.S., M.B.A., University of Maryland

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B.S.C.E., University of South Carolina; M.E., University of Florida

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B.A., M.A., Stetson University

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M.A., Mills College; M.A. and
Ph.D., University of Maryland

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with Instrument Rating

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M.B.A., George Washington University

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B.S., M.A., Wayne State University;
Dr. Psy., Brantridge Forest, Sussex, England

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A.B.,Lenoir Rhyne; B.D., Duke
University; M.A., Emory University;
Ph.D., Emory University

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B.A., Furman University;
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Joseph H. Smith ..... General Manager, Aircraft Repair Station
A & P Mechanic, D.M.E.,
I.A., Private Pilot

John H. Spears ..... Dean of Men
B.S., New Mexico State University;
M.A., George Washington University

A. C. Tacker ..... Head, Department of Flight Training
Commercial Pilot ASMEL-I
CFI A&I, FAA Examiner, A&P, I.A.

FACULTY

COLLEGE OF AERONAUTICAL STUDIES

Apperson, Ann A.	Assistant Professor of Social Sciences. A.B., B.C.L., College of William & Mary.
Ballina, Hortensia	Associate Professor of Physical Science. Dr. en Ciencios, Dr. en Farmacia, University of Havana, Cuba.
Bortell, Charles K.	Instructor, General Aviation. B.S., U. S. Military Academy.
Brown, Byron K.	Associate Professor of Management Science and Economics and Chairman, Division of Aviation Management. B.S., Parks College; M.B.A., University of Denver.
*Bruce, Isaac	Instructor, Management Science. B.S. and M.S., Stetson University.
*Cameron, Robert S., Jr.	Associate Professor of Management Science and Mathematics. B.S.C.E., University of South Carolina; M.E., University of Florida.
Campbell, Roger G.	Associate Professor and Head, Department of Social Sciences. A.B. and B.S., Florida Southern; M.S., Stetson University.
Chrisman, Everett L.	Associate Professor of Mathematics and Head, Department of Management Science. B.S., Oklahoma State University; M.L., University of Pittsburgh; M.A.T., Duke University.
Clay, Thomas C.	Assistant Professor of General Aviation and Management Science. B.S., Purdue University; M.S., U.S. Naval Postgraduate School.
Cornwell, Odbert H.	Instructor, Aeronautical Engineering and Engineering Technology. B.A., West Virginia University; MM, Pittsburgh Institute of Aeronautics. Com. SMEL, A & P.
Danforth, John S.	Associate Professor and Head, Department of Engineering Technology. M.E., Rensselaer Polytechnic Institute; M.S., Florida State University.
Deissler, Kenneth L.	Assistant to the Dean of Faculties for Testing and Counseling. Assistant Professor of Social Sciences. A.S., Central Technical Institute; B.S., University of South Dakota.

Dewey, David F.	Assistant Professor and Head, Department of Physical Education. B.S., Case Institute of Technology; M.S., Springfield College.
Dunmire, Robert B.	Associate Professor and Head, Department of Physical Science. B.S., Thiel College; M.S., Florida State University.
Hirmanpour, Iraj	Assistant Professor and Head, Department of Mathematics. B.S. and M.S., Louisiana Polytechnic Institute.
Kamens, Sandra M.	Instructor, Humanities. B.A., Stetson University.
Lamar, Burdette	Instructor, Humanities. B.A., Stetson University.
Lerche, Andrew O.	Assistant Professor of Mathematics. B.M.E., Rensselaer Polytechnic Institute; M.S., Purdue University.
Lewizky, Jury	Associate Professor and Chairman, Division of Aeronautical Engineering. B.S. and M.S., Wayne State University.
Lopez, José A.	Associate Professor and Head, Department of Economics. B.A., Belen School, Havana, Cuba; M.A., University of Miami; LL.D., University of Havana.
Mullings, Gloria	Instructor, Mathematics and Management Science. B.S., University of Oklahoma.
McCoy, Melvin L.	Instructor, Physical Sciences. B.S., University of Missouri; M.A., Columbia University.
Nelson, Elizabeth	Associate Professor and Head, Department of Humanities. B. A., University of Wisconsin; M.A., Mills College; M.A., University of Maryland; Ph.D., University of Maryland.
Ritchie, Donald J.	Professor of Aeronautical Engineering. B.S. and M.A., Wayne State University; Dr. Psy., Brantridge Forest, Sussex, England.
Sain, Daniel D.	Associate Dean of Faculties. Professor of Humanities and Chairman, Division of Arts and Sciences. A.B., Lenoir Rhyne; B.D., Duke University; M.A., Emory University; Ph.D., Emory University.
Spevack, Jerome M.	Instructor, Humanities. B.A., University of Miami; M.A., University of Mississippi.

Sullenberger, Louis E.	Instructor, Aeronautical Science. B.S., Embry-Riddle Aeronautical Institute.
*Tamm, John R.	Assistant Professor of General Aviation. LL.B., Stetson University; LL.M., McGill University.
Traut, William A.	Instructor, Physical Science. B.S.M.E., Ilmenau Technical College, Ilmenau, Germany.
Wang, Ming Hsien	Associate Professor and Head, Department of Aeronautical Engineering. B.S., Chinese National North Western College of Engineering; M.S., West Virginia University.
Wang, Yang-Tsung	Assistant Professor of Engineering Sciences. B.S., National Taiwan University; M.E., University of Oklahoma.
Wells, Marilyn J.	Instructor, Humanities. B.S.E., Henderson State Teachers' College.
Wilson, Thomas L.	Instructor and Department Head, General Aviation. B.S., University of Maryland. ASMEL, instrument.
Yackel, Edward P.	Dean of Faculties. Assistant Professor of Physical Science. B.A., Colgate University; M.A., Syracuse University.

FACULTY

COLLEGE OF AVIATION TECHNOLOGY
DIVISION OF MAINTENANCE TECHNOLOGY

Barrs, Alfonso, Jr. — FAA Certificate No. 1784985, Airframe and Powerplant Mechanic; FAA Certificate No. 1727135, Pilot, ASEL; Graduate, Embry-Riddle Aeronautical Institute, Airframe and Powerplant Mechanic; Total Aviation Experience — 4 years.

Bernal, Rudolph S. — FAA Certificate No. 1670087, Airframe and Powerplant Mechanic; Graduate, Orange County Airframe and Powerplant Maintenance Technology School; State of Florida Teacher's Certificate No. 185617; USN Graduate Flight Mechanic and Line Maintenance School; USN Graduate Instructors' School; USN Graduate Advanced Aircraft Engines and Components School; USN Graduate Basic Aircraft and Components School; FAA Certificate No. 910842 CFI (ASEL): Commercial Pilot; Total Aviation Experience — 27 years.

Bolton, Willard J. — FAA Certificate No. 532411, Airframe and Powerplant Mechanic; FAA Certificate No. 532411, Designated Maintenance Examiner; FAA Certificate No. 1061206 Private Pilot; FAA Certificate No. 140100, Group Instructor; Graduate, Orange County Florida Vocational Training School; Graduate, USN Aeronautical Maintenance School; Graduate, Embry-Riddle Aeronautical Institute, Airframe and Powerplant Mechanic; Flight; Lockheed Aircraft Corp., Jet Engine Specialist; L. B. Smith Aircraft Corp., Inspector; Total Aviation Experience — 26 years.

Carter, William C. — FAA Certificate No. 1243838, Airframe Mechanic; Graduate, Orange County, Florida, Vocational School, Aircraft Mechanics Course; USN Graduate Aircraft Mechanics School Class "B"; USN Graduate Instructors Course; Graduate, Lockheed Aircraft Corp. Instructor Training Course; USMC, Instructor, Aircraft Maintenance and Ground Support Equipment; USMC, Airframe Quality Control Inspector; USMC, Airframe Maintenance Supervisor; Total Aviation Experience — 15 years.

Cherry, Ivan R. — FAA Certificate No. 1561701, Airframe and Powerplant Mechanic; Graduate, Embry-

	Riddle Aeronautical Institute, Airframe and Powerplant School; USAF Graduate Engine Specialist School; USAF Graduate Lockheed Aircraft Corp. Super Constellation School; USAF Aircraft Maintenance Crew Chief; Hamilton Standard, Jet Fuel Control Maintenance; Ling Tempco Vaught, Aircraft Maintenance; Total Aviation Experience — 14 years.
Cramton, Charles B.	FAA Certificate No. 1117906, Airframe and Powerplant Mechanic; FAA Certificate No. 1117906, Designated Mechanics Examiner; FAA Certificate No. 1117906, Inspection Authorization; FAA Certificate No. 717115 Commercial Pilot; Multi Engine Instrument; British Certificate No. C 069113, Commercial Pilot; Associate Degree Engineering, Alfred University; Graduate Embry-Riddle Aeronautical Institute, Airframe and Powerplant Mechanic; Royal Air Force, Pilot; U.S. Air Corps, Pilot; Pan American Airways, Pilot, Technician; L. B. Smith Technician, General Foreman; American Airmotive Technician, General Foreman; Coloney Airlines Owner, Operator; Total Aviation Experience — 25 years.
Duncan, Harold C.	FAA Certificate No. M 17451, Airframe and Powerplant Mechanic; State of Florida Teacher's Certificate No. 194973; Graduate Curtiss Wright Technical Institute; Northrop Aircraft Co., Electrician; Lockheed Aircraft Corp.; Flight Line Maintenance; Flight Mechanic; Section Head; Final Assembly Inspection; Flight Line Inspection; Experimental Flight Inspection; Chief of Customers Service Inspection; John Burroughs Adult High School, Instructor; Colombian Petroleum Co., S.A., Chief of Aviation Maintenance; Esso Standard Eastern Inc. Indonesia, Chief of Aviation Maintenance; Total Aviation Experience—32 years.
Foster, Kenneth R.	FAA Certificate 1800050 Airframe and Powerplant Mechanic; USAF Graduate Jet Engine Technician School; USAF Graduate USAFE FTD School J57, J75, J60; Graduate Embry-Riddle Aeronautical Institute, Airframe and Powerplant School; Total Aviation Experience — 6 years.
Harton, Merle C.	Administrative Assistant to the Chairman; B.A., Stetson University; Total Aviation Experience — 27 years.

Heemsath, John H.	FAA Certificate No. 1574365, Airframe and Powerplant Mechanic; FAA Certificate No. 1545107 Private Pilot ASEL; Graduate, Embry-Riddle Aeronautical Institute, Airframe and Powerplant School; Associate Degree in Arts, Indian River Junior College; U.S. Army Graduate, Helicopter Maintenance School; U.S. Army Graduate, Gas Turbine Aircraft Engine Course; U.S. Army Graduate, Aircraft Maintenance Instructors' School; Total Aviation Experience—7 years.
Hoover, Elmer G.	B.S.E.E., Pennsylvania State University; State of Florida Teacher's Certificate No. 226084; FAA Certificate No. 238263, Private Pilot; Martin Aircraft Corp., Design Engineer; Total Aviation Experience — 15 years.
Lehmann, Karl E.	FAA Certificate No. M 12079, Airframe and Powerplant Mechanic; FAA Certificate No. M 12079, Designated Mechanic Examiner; FAA Certificate No. 22309-46, Ground Instructor; State of N. Y. Teacher's Certificate No. 366; State of Florida Teacher's Certificate No. 194975; International Federation of Aviation Certificate No. 8219; FAA Certificate No. 22309-40, Ground Instructor; Roosevelt Field, Inc., Aviation School, Chief Instructor; Repair Station No. 181, Director; U.S. Navy, Superintendent in Charge, Modification of Fighter Aircraft; Total Aviation Experience — 30 years.
Mitchell, James W.	FAA Certificate No. 1716535, Airframe and Powerplant Mechanic; Graduate Embry-Riddle Aeronautical Institute, Airframe and Powerplant Mechanic; USAF Graduate, Aircraft Maintenance School; Total Aviation Experience — 7 years.
Moran, Frank P.	FAA Certificate No. 97842, Commercial Pilot, ASMEL; Rotorcraft, Helicopter, Instruments; State of Florida Teacher's Certificate; U.S. Marine Corps Schools, Quantico, Va., Instructor; Total Aviation Experience — 26 years.
Scott, Gordon B.	FAA Certificate No. 7237, Airframe and Powerplant Mechanic; Graduate, U.S. Navy Aircraft Mechanic School; University of Maine, 2 years Engineering; FAA Certificate No. 98071-41, Ground Instructor; Martin Aircraft Company Graduate, Technical Representative Training School for Missile

	Control and Missile Guidance; Curtiss Flying Service, Technician; Ireland Aircraft Company, Technician; Pan American Airways, Technician; East Coast Airways, Technician; Northeast Airways, Technician; Trans-Ocean Airways, Foreman Major Overhaul; Glenn L. Martin Aircraft Co., Technical Representative; U.S. Army-U.S. Air Force 46th Sub Depot Superintendent, Major Overhaul; Total Aviation Experience — 42 years.
Smith, John L.	FAA Certificate No. 1658840, Airframe and Powerplant Mechanic; FAA Certificate No. 1680869, Commercial Pilot, ASEL Instrument; Graduate Embry-Riddle Aeronautical Institute, Airframe and Powerplant Mechanic; International Flight Service, Technician; Airmotive Suppliers, Technician; Total Aviation Experience — 8 years.
Spangler, Roy V.	Graduate, Alabama Trade School, Airframe and Engines; USAF Aircraft Engine Test Cell Operator; USN Graduate, Aircraft Maintenance Mechanic Technical School; USN Graduate, Advanced Powerplant and Jet Engine School; USN Graduate, R3350 Engine School; USN Graduate, Helicopter Maintenance School; USN Instructor School; USN Aircraft Maintenance Instructor; USN Helicopter Maintenance Instructor; USN Engine and Jet Maintenance Instructor; USN Dope and Fabric Instructor; Lockheed Aircraft Co., Technician; Total Aviation Experience — 25 years.
Steele, John C.	FAA Certificate No. 216127, Airframe and Powerplant Mechanic; FAA Certificate No. 216127, Designated Mechanic Examiner; FAA Certificate No. 207729, Commercial Pilot ASMEL; FAA Certificate No. 165252, Ground Instructor; State of Florida Teacher's Certificate No. 194978; Graduate Roosevelt Aviation School; U.S. Air Force Graduate Pilot Training Command; U.S. Air Force Aircraft Maintenance Officers School; Roosevelt Aviation School, Instructor; U.S. Air Force Aircraft Mechanic School, Instructor; Aero Corporation, Weight and Balance Specialist; Total Aviation Experience — 28 years.
Story, John N., Jr.	FAA Certificate No. 1660635, Airframe and Powerplant Mechanic; FAA Certificate No.

	1318079 CFI, Flight Instructor; FAA Certificate No. 1318079, Commercial Pilot; Hayes Aircraft Corp., Technician; Central Aviation, Commercial Pilot; Southern Aircraft Sales, Flight Instructor, Technician; Albertville Flying Service, Operator; Total Aviation Experience — 22 years.
Titus, Chandler P.	FAA Certificate No. 1277549, Airframe and Powerplant Mechanic; FAA Certificate No. 1277549 Designated Mechanic Examiner; FAA Certificate No. 1329716, Ground Instructor; State of Florida Teacher's Certificate No. 194979; FAA Certificate Repair Station 5404, Shop Supervisor; USAF Graduate, Flight Engineers School; USAF Instructor, Flight Engineer "Heavy" Transport Aircraft; USAF Graduate Douglas DC-3, DC-4, C12Y, Lockheed 749, Hamilton Standard Propeller Maintenance Technician Schools; Total Aviation Experience — 24 years.

FACULTY

COLLEGE OF AVIATION TECHNOLOGY
DIVISION OF FLIGHT TECHNOLOGY

Alonso, Don A.	Instructor, Flight Technology; Commercial Pilot ASMEL-ASES-I, CFI-A&I, GI-A&I.
Alonso, Don R.	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A.
*Atkins, Ronald	Instructor, Air Science; Advanced and Instrument Ground Instructor; Commercial Pilot ASEL-I, CFI-A&I.
*Beall, Roland W.	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A.
Bernard, H. E.	Instructor, Flight Technology; Commercial Pilot ASELS-I, CFI-A.
Blaydes, Richard T.	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A&I.
Bloodworth, William H.	Instructor, Flight Technology; ATR ASMEL-I, CFI-A&I, GI-A&I.
Bowden, Milburn L.	Instructor, Flight Technology; Commercial Pilot ASMEL-SES-I, CFI-A&I, GI-A&I.
Brown, Frederick	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CRI-A&I.
*Brown, Larry	Instructor, Air Science; Advanced and Instrument Ground Instructor; Commercial Pilot ASEL-I, CFI-A&I.
Cotner, Murrell A.	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CFI-A&I.
Dale, George D.	Instructor, Flight Technology; Commercial Pilot ASMEL, CRI-A&I, GI-A&I.
*Dudas, Thomas	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-I, GI-A&I.
*Dunne, Randall	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A&I, GI-A&I.
Fleming, Robert D.	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CFI-A.
Green, Walter M.	Instructor, Flight Technology; ATR ASMEL-I, CFI-A&I.
Grippo, James F.	Instructor, Flight Technology; Commercial Pilot ASEL, CFI-A&I.
Hurt, S. Harry	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A.

Jencks, Lawrence C.	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A.
Johnson, Vern	Instructor, Flight Technology; Commercial Pilot ASMEL, CFI-A&I.
Kuzo, James C.	Instructor, Flight Technology; Commercial Pilot ASMEL, CFI-A&I.
Leavitt, Cyril	Instructor, Flight Technology; Commercial Pilot ASMEL, CFI-A&I.
Loop, F. Thomas	Instructor, Flight Technology; Commercial Pilot ASMEL, CFI-A.
Madison, Charles E.	Instructor, Air Science; Advanced and Instrument Ground Instructor; Private Pilot ASEL.
Manelski, Leigh F.	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A&I, GI-A&I.
*Miller, Joseph P.	Instructor, Flight Technology; Commercial Pilot ASMEL-I, GI-I.
Moore, Charles T.	Instructor, Flight Technology; Commercial Pilot ASMEL-I, Glider, CFI-A&I.
Prosser, John N.	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CFI-A&I, GI-A&I.
Roman, Theodore E.	Instructor, Flight Technology; Commercial Pilot ASELS, CFI-A.
Selim, Ramzy	Instructor, Air Science; Advanced and Instrument Ground Instructor; Private Pilot ASEL.
Spencer, Robert W.	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A.
Stanford, Frederick	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CFI-A&I.
Stone, John F.	Instructor, Air Science; Advanced and Instrument Ground Instructor; Commercial Pilot ASMEL-I.
Storm, John A.	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CFI-A&I.
**Story, John, Jr.	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CFI-A&I, A&P.
Tacker, Agee C.	Chief Pilot; Commercial Pilot ASMEL-I, CFI-A&I, A&P-I-A, FFA Examiner.
Trout, Robert	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A&I, GI-A&I.

Walker, Joe A.	Assistant Chief Pilot; Commercial Pilot ASMEL-I, Glider, CFI-A&I, GI-I, FAA Examiner.
Walker, Margaret	Instructor, Flight Technology; Commercial Pilot ASMEL-I, Glider, CFI-A&I, GI-A&I.
*Ward, James	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CFI-A&I, GI-I.
West, Samuel E.	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CFI-A&I.
Williams, Luther	Instructor, Flight Technology; Commercial Pilot ASMEL-I, CFI-A&I, GI-A&I.
*Wisniewski, James	Instructor, Flight Technology; Commercial Pilot ASEL-I, CFI-A.

*Part Time
**On Leave 1968-69

Letter designations for pilot certificates are as follows:

A	Airplane
SE	Single engine
ME	Multi engine
SMEL	Single and multi engine
L	Land plane
I	Instrument
CFI	Certified flight instructor
S	Seaplane

GENERAL INFORMATION

History

Embry-Riddle, originated as a flying school at Lunken Airport, Cincinnati, Ohio, in 1926. Since then it participated in the field of aeronautical education both nationally and internationally, and became known as the Embry-Riddle International School of Aviation.

During World War II when the United States Army was in critical need of pilots and mechanics, Embry-Riddle assisted in developing a program to successfully fulfill this need. The school established and operated four, large Army flight schools, and also trained thousands of Army mechanics at its Florida installation.

In September, 1961, Embry-Riddle Aeronautical Institute, a nonprofit coeducational institution, replaced the International School of Aviation. Embry-Riddle offers curricula in aeronautical engineering, aeronautical engineering technology, aviation management, aircraft maintenance engineering technology, airframe and powerplant mechanic training to include jet engines, and professional pilot training complete with ground school and synthetic trainers.

Philosophy

Embry-Riddle Aeronautical Institute accepts as a responsibility:

The *personal* task of preparing students for responsible citizenship in every sense of that term.

The *educational* task of adequately preparing students for productive occupational and professional careers in aviation.

The *industrial* task of maintaining the closest liaison with the aviation community and to maintain a continuing dialog with all elements of aviation.

Institutional Objectives

Embry-Riddle Aeronautical Institute has established the following educational objectives:

To provide the training facilities, faculty, staff and equipment necessary to afford qualified students the opportunity to acquire a high degree of skill and professionalism in various aviation disciplines.

To develop professional programs in specialized aviation fields consistent with high academic and training standards, and to continue to maintain these standards in all programs.

To provide an opportunity for all competent, serious-minded students to acquire a technical, vocational or higher education without regard to race, sex, creed or national origin.

To consult with the aviation industry in order to determine manpower needs for the purpose of maintaining a constant and dynamic reevaluation of the programs offered within a framework of liberally oriented educational objectives.

To sponsor and promote research activities appropriate to these objectives.

Accreditation and Affiliation

Embry-Riddle Aeronautical Institute has made application for membership in the Southern Association of Colleges and Schools and is now in the process of developing organization, curricula and facilities for purposes of overall institutional accreditation at the earliest practical date. The Associate of Science program in Aeronautical Engineering Technology is accredited by the Engineers' Council for Professional Development. The Aircraft Maintenance and Flight courses conducted by Embry-Riddle are approved by the Federal Aviation Administration. The State of Florida has approved programs in Engineering, Engineering Technology, Aircraft Maintenance, Aviation Management and Flight for veteran's G.I. Bill benefits and the Office of Education, Department of Health, Education and Welfare has approved this institution for Federal assistance under the Higher Education Facilities Act of 1963 and the Higher Education Act of 1965.

This institution is an associate member of the Florida Association of Colleges and Universities; a member of the National Council of Technical Schools and the College and University Personnel Association.

Cooperative Education Programs

Cooperative education activities are conducted with the University of Florida College of Engineering, and Stetson University, DeLand, Florida. Certain subjects in the Embry-Riddle Aeronautical Engineering courses are conducted at the Daytona Beach facility of the University of Florida Graduate Engineering Education System (GENESYS). In some instances classes are taught via the closed-circuit talk-back television system by University of Florida professors of Aerospace Engineering from the Cape Kennedy Space Center or from the main campus at Gainesville, Florida. In other instances, classes are conducted at the University of Florida GENESYS facility for Embry-Riddle by resident faculty.

The cooperative education program between Stetson University, located some 25 miles from Daytona Beach, and Embry-Riddle consists of reciprocal assistance in Business Administration and Aeronautical Science.

According to mutual agreement, Embry-Riddle students enrolled in Aviation Management attend selected classes conducted on the Stetson campus by the School of Business Administration. Stetson University, on the other hand, offers courses for Stetson-enrolled students in selected General Aviation and Aeronautical Science subjects, but the students concerned attend classes at Embry-Riddle Aeronautical Institute.

Embry-Riddle students may enroll in ROTC training as an elective course. However, individuals concerned attend these classes at Stetson University by a class-enrollment arrangement. The course of instruction is divided into two phases, Basic Course and Advanced Course, each lasting the equivalent of two years. In order to enroll in the Basic Course, a student must be a citizen of the United States and not more than 28 years of age prior to date of qualification for appointment as a second Lieutenant, be physically qualified in accordance with Army standards for reserve officers, and have successfully completed the ROTC qualifying examination. Enrollment in the Advanced Course is contingent upon completion of the Basic Course or at least one year active and honorable service in the United States Armed Forces. ROTC graduates are awarded commissions as second Lieutenants in the U.S. Army Reserve, or in the case of Distinguished Military Students, the regular Army. In addition, seniors in the ROTC program may qualify for Army aviation training, and all instruction, uniforms and textbooks for Basic and Advanced students are furnished by the U.S. Government. Prospective Embry-Riddle students who wish to participate in the ROTC Program should indicate their desire prior to or at the time of registration application. For further information, write the Director of Admissions.

General Requirements for Admission

All applicants must be at least 17 years of age and must present evidence of satisfactory physical and mental health by completion of the student health form. Forms must be completed within the 6-month period preceding the date of entry. All entering flight students must show evidence of possession of an Airman medical certificate before flight training will commence. Applications for admission should be submitted at least two months before the start of the trimester in which an applicant wishes to enroll. Applications filed later will be processed but students should expect delays in their dates of admission and enrollment.

All applicants must present a diploma from an accredited secondary school. Graduates of non-accredited secondary schools, those not issued a diploma and those not completing a secondary program may be considered for admission on the basis of the General Education Development test providing they place above the 40 percentile in each subject area and above the 45 percentile on the composite of the GED.

A fee of $15.00 must accompany all applications for admission. Within thirty (30) days of notification of acceptance, a $100.00 tuition deposit

is required. The tuition deposit is 100% refundable, provided the Institute is notified by letter postmarked sixty (60) days prior to the date of registration, of the intent of the student not to register.

Foreign Students

The credentials of applicants from foreign countries are evaluated in accordance with the general regulations governing admission. An application, photograph, and detailed transcripts of records must be submitted to the Director of Admissions at least six months in advance of the opening of the class in which the applicant seeks to gain admission. This will allow time for the exchange of necessary correspondence and documents relative to the securing of passports and visas for study in the United States.

Candidates for admission are required to consult the American Consulate or the American Embassy in their country of residence and make arrangements to take an English language examination. The results of this examination are an important factor in determining the acceptability of an applicant. Embry-Riddle must receive this information directly from the Consular Office before a decision concerning admission will be reached.

In addition, candidates for admission must complete all arrangements for the necessary American dollars to cover tuition and living expenses and must furnish advance proof of this according to the amount shown on the Certificate of Eligibility of the U.S. Immigration Service, Form 1-20A. This also is an important factor in determining the acceptability of an applicant.

Acceptance for admission of foreign students will be based on recommendations of the Committee on Admissions and other requirements detailed in this Bulletin and determined on an individual basis. Foreign students approved to enter will be required to present evidence of satisfactory mental and physical health at the time of admission and may be required to submit to a physical examination at the time of admittance at their own expense.

FEES AND CHARGES

Tuition

Academic Courses (14-18 credit hours)	$450.00	per	trimester
If credit hours are less than 14 or greater than 18, fees will be charged at the rate of $35.00 per credit hour.			
Laboratory Fees	$ 10.00	when	applicable
Airframe and Powerplant Mechanic Course...	$450.00	per	trimester

Flight Courses (Professional Flight Program) *

Primary Phase (45 flight hours)		
Private Pilot	$ 795.00	$ 795.00
Intermediate Phase (173) flight hours)		
Commercial Pilot	$ 2658.00	
Instrument Pilot	735.00	
Flight Instructor	595.00	$ 3988.00
Advanced Electives		
Multi-Engine Laboratory (15 flight hours)		$ 757.00
Advanced Instrument (25 flight hours)		525.00
Multi-Engine Flight II (DC-3) (15 flight hours)		1424.00
Instrument Flight Instructor (25 flight hours)		633.00

Aeronautical Science Curriculum

Trimester	1	2	3	4	5	6	7	8
Tuition	$450	450	450	450	450	450	450	450
Flight Lab. Fee	$750	784	868	695	660	745	—	520

Payment Procedure

Payment in full of tuition, fees, charges and room and board must be made on or before the day of registration. Continuing students must prepay in accordance with preregistration instructions.

Students in the Aeronautical Science Curriculum must complete flight courses prior to the end of the add/drop period of the succeeding trimester of enrollment. Additional hourly fees will be charged after this date. Embry-Riddle reserves the right to determine whether the incomplete flight course was due to factors beyond the control of the student involved or whether additional hourly fees should be charged.

Partial Payment Plan —

A partial Payment Plan is available to qualified students who require additional time to pay their fees. Students accepted for this plan must sign

*Fees include tuition, regular flight lab fee, orals and simulator training.

an agreement to pay in full. After registration, there is a $5.00 service charge for each transaction. The schedule of payments is as follows:

50% at registration
25% beginning of second month
25% beginning of third month

Flight Accounts

Combined flight students may prepay the fees of flight courses at registration *or* may open a flight account at their option. The flight account system is established as a pay-as-you-fly convenience to the academic or technical student with primary objectives other than flight training. Professional Flight program or Aeronautical Science students are not eligible to participate in the flight account system.

Upon opening the flight account, the combined student will be required to place $100 in escrow. The escrow deposit cannot be drawn upon and will not be returned to the student until either the student has completed flight training or he withdraws from the flight division. After the escrow account has been established a $300 minimum initial deposit into the flight account will apply towards flight training and ground school charges. However, students in the academic programs may be exempt from the ground school charges depending on their credit hours per trimester. Charges for flight training will be in accordance with the published Aircraft Rate Schedule. Withdrawals from the flight account for personal expenses may not be made. When students withdraw from the flight division, flight account refunds will be computed two weeks after the date of withdrawal.

Aircraft Rate Schedule

Rate schedules will apply to students in the following categories:

(a) Combined students receiving flight training on the flight account system;

(b) Professional Flight program and Aeronautical Science students requiring additional training in order to complete a flight course.

Equipment is also available for non-syllabus rental to properly licensed students and faculty by pre-arrangement on a "non-interference" basis. Such flights must be approved by the Chief Pilot and are subject to Florida State Tax.

	RATES PER HOUR		
AIRCRAFT TYPE	DUAL	SOLO	INSTRUMENT
Primary Aircraft (Up to 150 H.P.)	$ 18.00	$ 13.00	$ 20.50
Boeing Steerman	25.00	None	None
Twin Beech D-18	45.00	None	55.00
Douglas DC-3	90.00	None	100.00
Oral Instruction	10.00	None	
Flight Simulator (Link)	None	None	10.00

Non-Refundable Fees and Charges

Student Activities (Per Trimester)	$ 5.00
Application (One time only)	15.00
Matriculation (One time only)	10.00
Graduation (Payable at the beginning of a student's final trimester. Includes cap and gown and engraved diploma)***	10.00
Tools, Books, Kits and Supplies	As Required
R.O.T.C. Activity Fee	6.00
Flight Examination Check Ride	20.00
Airframe and Powerplant Orals and Practicals	25.00

Refunds

In order that the proper services may be provided to students, obligations are entered into by the Institute which continue even if students subsequently withdraw. As a result, full recovery of fees by the student at the time of withdrawal is not possible and an equitable charge must be made to recover the loss of income to the Institute as a result of withdrawal.

Students who withdraw from the Institute in good standing within the first twenty-one days commencing on the first day of registration as published, *normally* will be charged fifty percent of tuition, flight and dormitory fees for that trimester. Students withdrawing after that date will *generally* receive no refunds. Exceptions may be made provided withdrawal is due to circumstances beyond the student's control, such as extended illness or required military service. In these instances, determination will be based on the merits of each individual case.

Refunds for students enrolled under the certification provisions of the Veterans Administration will be processed in accordance with Embry-Riddle Aeronautical Institute refund schedules approved by the Veterans Administration.

The refund of tuition, fees and other charges to veterans, war orphans and children of permanently or totally disabled veterans who fail to enter the course, or withdraw or are discontinued therefrom at any time prior to completion will be in accordance with section 1654, chapter 34 or section 1776, chapter 35, title 38, United States Code.

***Students qualified for the Associate of Science Degree and proceeding for further study may participate and receive the diploma for an additional $10.00 fee to cover the double costs of graduation.

Those students initiating a major change in curriculum, such as dropping flight from a combined program, will be charged in accordance with the principles outlined for students withdrawing from the Institute in good standing, except that the cut-off date for 50% refunds will be based on the end of the official drop/add period as established in the Institute Calendar.

A student dismissed for reasons of conduct or academic standing in accordance with conditions established under the paragraph heading "Dismissal from the Institute," page 41, is not entitled to a refund regardless of the time of dismissal.

Delinquent Accounts

All accounts are due the first of each month and delinquent on the fifth. Students whose accounts are in arrears may be denied registration for a new trimester, graduation, or the release of transcripts of their records.

STUDENT SERVICES AND ACTIVITIES

Placement

The Placement Office conducts an active service which has had excellent success in placing graduates. The office maintains extensive files of company information which students and alumni are encouraged to use as a clearing agency for students who have requirements after graduation.

This office helps students prepare individual resumes and keeps an up-to-date list of job openings in the aviation industry. The Placement Office arranges on-campus interviews with corporations in the aircraft industry.

As an added service, this office assists students and their wives, whenever possible, to find part-time or full-time employment in the Daytona Beach area.

Library Facilities

The library subscribes to approximately 150 periodicals and has at its disposal indexes to permit research. It also receives trade journals, house

organs and general publications of the major airlines. Photocopying services are available.

An up-to-date reference collection is maintained and kept current for the needs of the aeronautical engineering and related programs, including FAA publications, CAB regulations and NASA documents and reports.

Other services include individual reference service, inter-library loan service, and instruction in the use of the library, which is classified according to the Library of Congress system.

Mail

Prior to a student's arrival, all personal mail and baggage should be addressed as follows:

Name
c/o Embry-Riddle Aeronautical Institute
Daytona Beach, Florida 32015

All baggage and express packages must be sent prepaid. Baggage is stored at the risk of the student and the Institute accepts no responsibility for theft or missing baggage. Baggage will be stored in a locked room.

During registration each student will be assigned a post office box which he is required to check on a daily basis, not only for his personal mail but to enable delivery of Institute official notices. The correct address will then be:

Name
c/o Embry-Riddle Aeronautical Institute
ERAI Box ———
Daytona Beach, Florida 32015

Student Government Association

The Student Government Association of Embry-Riddle Aeronautical Institute has as its membership all full-time students. The governing body of this Association is the Student Council. It is composed of thirty Representatives elected annually by the student body.

The purpose of the Student Council is to promote the welfare of the student populace and the University. It shall maintain liaison with the Administrative Staff and cultivate good relations with other colleges. It is the responsibility of the students to support their Student Government Association.

The Student Council plans, directs, and supervises dances, barbecues, lectures, trips, movies and other activities. The Council publishes a weekly newspaper, THE INFORMER and an annual yearbook, the PHOENIX. It has the responsibility to regulate vehicular traffic on the campus and in dormitory areas, and to govern student conduct and dress. All student groups and organizations must have their constitutions approved by the Student Council.

Living Accommodations

All students, if unmarried or unaccompanied by wives, are required to reside in college designated dormitories. With the consent of the Dean of Students, special exemptions may be allowed for students over 21 years of age. Room fees range from $200.00 to $250.00 per trimester. The Institute does not yet have dining facilities. However, there are several restaurants nearby which are located on our bus route where those students who desire to do so may purchase meal tickets on a weekly, monthly, or trimester basis. The average cost per trimester is about $275.00. In addition, those students living in the apartment-type dormitories may prepare their own meals if they wish.

Embry-Riddle does not ordinarily maintain apartments or quarters for married students. However, there are many furnished apartments and homes for rent in the area. Several trailer parks are located within a few miles of the school for the convenience of those students owning or desiring to rent a trailer. For information on living accommodations, please contact the Director of Student Housing.

Financial Aid

Embry-Riddle participates in all of the financial aid programs of the Federal government as well as the guaranteed and vocational loan programs set up by the various states:

COLLEGE WORK-STUDY: A program of part-time employment on campus. A student from a low-income family, who is in need of a job to help pay for his college expenses (tuition, fees, books, room, board and personal expenses) is eligible for employment under the provisions of this program.

NATIONAL DEFENSE STUDENT LOAN: A program of borrowing, primarily for needy students, in which the student has an obligation to repay his loan with 3 percent interest. Repayment may be extended over a ten year period.

EDUCATIONAL OPPORTUNITY GRANTS: A program of direct grants in which the student receives a non-obligating award of funds based on exceptional financial need and evidence of academic promise.

GUARANTEED LOAN: A program of borrowing, primarily for students from middle or upper income families. The student has an obligation to repay his loan with a 3 percent interest (middle income) or 6 percent interest (upper income). This program is available to students in both vocational and degree programs.

High school counselors or our financial aid officer frequently will be able to help the student work out package financial plans. These plans are designed to make it possible for qualified young people to obtain a college education. Students should process their applications for financial assistance (Parents' Confidential Statement) along with their application for admission. No decision on financial aid can be made until formal acceptance of admission has been received by the student.

The amount of financial assistance a student may receive at this Institute depends upon his need. Need is partially determined by an analysis of the "Parents' Confidential Statement" or "Student Confidential Statement" as in the case of a married student; a form devised by the College Scholarship Service. The College Scholarship Service does not itself award scholarships or other types of financial aid. It simply provides a uniform method of analyzing a family's ability to pay for college expenses. Contact your high school counselor for an application and further details on the Federal assistance programs.

The following private plans may also be utilized:

a. The Investment-in-Education Plan: Funds for Education, Inc., 319 Lincoln Street, Manchester, New Hampshire.

b. The Tuition Plan, Inc., 575 Madison Avenue, New York, New York 10022

In addition to the Federal assistance programs, two privately endowed programs are available. Specific information may be obtained by directing inquiries to the Financial Aid Office. The Scholarship Programs are:

THE ZONTIAN SCHOLARSHIP FUND: In honor of Amelia Earhart, the Daytona Beach Zonta Club, an organization of business and professional women, sponsors qualified young women to prepare for careers in aviation. Recipients are chosen yearly between June and September by the Scholarship Committee and the extent of financial aid determined will be applied against tuition expenses. Financial assistance will be awarded on a yearly basis and will continue until culmination of the student's educational objectives at ERAI, provided high standards of academic and moral conduct are maintained, as determined by the Institute. Scholarships will be awarded without prejudice to race, religion or color.

THE EMBRY-RIDDLE SCHOLARSHIP AWARD: This award is sponsored by the Institute and honors outstanding students who desire to study in the general field of aviation at Embry-Riddle Aeronautical Institute. Selections are made yearly and are full tuition-free scholarships. The scholarships will continue in existence until culmination of the educational objectives of the recipient, provided the student maintains the highest standards of academic excellence and moral conduct as determined exclusively by the Institute.

Organizations

Student organizations include the Sailing Club, Rifle and Pistol Club, Experimental Aircraft Association and Veterans Association. There are three campus fraternities:

Sigma Phi Delta Professional Engineering Fraternity; founded at the University of Southern California, 1926; Pi Chapter at Embry-Riddle organized in 1960.

Alpha Eta Rho International Aviation Fraternity; founded at the University of Southern California, 1929; Epsilon Rho Chapter at Embry-Riddle organized in 1962.

Pi Sigma Phi Social Fraternity; founded at Embry-Riddle Aeronautical Institute, 1967.

All fraternities require at least one trimester in residence prior to pledging except for qualified transfer students.

Students from different sections of the world have organized groups to promote international relations.

Sports

Embry-Riddle, a member of the National Association for Intercollegiate Athletics, participates in intercollegiate competition in soccer, tennis, wrestling, basketball and golf. Students who are on academic probation may not compete in intercollegiate athletics.

Intramural and/or league competition is provided in baseball, basketball, bowling, flag football, golf, softball and volleyball. Bicycling, shooting and weight lifting equipment and/or facilities are available.

Emergency Medical Treatment

Upon submission and acceptance of an application, parents, sponsors or the student hereby authorizes the school administration to authorize emergency medical treatment when called upon to do so by competent medical authority. It is agreed that no legal action will be brought against the school or its officers when such authorization by the administration is granted.

Trimester Hour Credits

All credits are recorded in terms of trimester hours. A trimester hour is one 55-minute lecture per week throughout the 15-week trimester. In counting hours earned in the laboratory, a trimester hour is considered to be two laboratory hours requiring outside preparation, or three laboratory hours requiring little or no outside preparation.

Grading Procedure

GRADE	RELATIVE STANDING	HONOR POINTS PER TRIMESTER HOUR
A	Superior	4
B	Above Average	3
C	Average	2
D	Below Average	1
F	Failure	0
WF	Withdrawal while failing during the last three-fourths of the course	0
WP	Withdrawal while passing during the last three-fourths of the course	0
W	Withdrawal during the first fourth of the course	0
X	Exempt by examination	0
T	Accepted by transfer	0
P	Satisfactory (Physical Education)	0
AU	Auditing course without credit	0
I	Passing but incomplete work	0

An incomplete grade is given when a student is unable to complete required work for reasons beyond his control as determined by the instructor. A grade of "I" must be made up not later than the end of the sixth week of classes of the following trimester (not later than the end of the third week of classes of the next half-trimester in the case of half-trimester courses), otherwise the "I" is automatically changed to an "F" by the Registrar.

A student may withdraw from a course during the first fourth of a course and receive a grade of "W." If he withdraws after this time, he is assigned a grade of "WP" or "WF" (as appropriate). The date of course withdrawal (drop) is the date that the procedure is completed and recorded by the Registrar.

In the event the student discontinues attendance but does not complete the official withdrawal procedure, the grade of "F" is assigned.

A "WF" and an "I" on an academic record is equivalent to an "F" in computing honor-point averages.

Attendance*

Regular attendance and punctuality are required at all times in all courses. Arrangements for completing missed work may be made with the instructor, at the discretion of the instructor. It is the responsibility of the student to initiate these arrangements.

In those cases involving illness, grave personal problems, or other circumstances which make attendance impossible, the student is obligated to inform his instructor and request absences be charged as excused absences.

Unexcused absences in a course in excess of one absence per credit hour (or "non-credit hour") is sufficient reason for assignment of a grade of "F" to the student. Arrangements may be made with the instructor to make up the work missed.

An examination is given in each course at the end of the trimester. A student who misses an examination without advance permission of the instructor will be given an "F" in the course. An incomplete may be given if the absence was due to circumstances which were beyond the control of the student but will not be allowed unless the instructor has been given evidence of the circumstances.

Attendance at Other Schools

Students desiring to take academic courses or technical courses (including flight training) at other schools must obtain permission of the Registrar of Embry-Riddle Aeronautical Institute prior to enrollment at another school. This applies to currently-enrolled students and to students not currently enrolled but maintaining "continuous enrollment."

Students are cautioned that tampering with the full-time student status at the Institute may have serious consequences with the Selective Service System or Veterans Administration.

Preparatory Education

This program has been initiated to provide entering students with an opportunity to improve their capability in the basic educational requirements for the degree programs. Placement in this program will be made on the basis of placement tests as described on page 44.

Experience with students who do not meet these standards has shown that success in the degree programs is questionable unless such a program is completed satisfactorily.

The Preparatory Education Program is designed to give the student a sound basis in mathematics, english, physical and social sciences. Satisfactory completion of the program below requires a grade of C or better in all four courses. Failure of two or more of them will result in denial of enrollment in degree programs. A failure in only one will require a case by case determination by the Department Head and Division Chairman as to whether the student should be admitted to the degree programs.

*Refers to academic degree programs only. Attendance requirements for aviation technology students are included in the description under the respective divisions.

A major part of the Preparatory Program will consist of study techniques for the particular disciplines offered. Because of the application of mathematics and English to all degree programs these disciplines have been given major emphasis in the Preparatory Education Program. No credit will be allowed for this program.

COURSE OF STUDY	CLASS HOURS PER WEEK
Preparatory Mathematics MA-001	7
Preparatory English HU-001	5
Preparatory Physical Sciences PS-001	3
Preparatory Social Sciences SS-001	3

No other course work will be allowed while pursuing this program. Enrollment in any degree program will be deferred until the Preparatory Education Program is completed satisfactorily.

Grade Point Average

A grade-point average (GPA) is computed for each student at the end of each trimester. The GPA is determined by dividing the total number of grade points earned at Embry-Riddle by the total number of trimester hours attempted. In computing the GPA the trimester hours attempted are determined as follows:

a. All degree programs: all credit hours attempted at Embry-Riddle Aeronautical institute.
b. All non-degree programs: all credit and non-credit hours that are required for the program and attempted at Embry-Riddle Aeronautical Institute.

When a "WP," "W," "X," "P," or "AU" grade is recorded for a course, the hour value does not count as hours attempted.

In computing the GPA, a course repeated is counted as many times as grades for it are recorded.

Honor Student

An Honor Student is one who has attained an honor-point average of 3.50 or better for the previous trimester, provided he was enrolled as a full-time student in courses that may be used to compute his honor-point average.

A student likewise may be placed on the Dean's List with a grade-point average of 3.20 to 3.49.

Classification of Students

Students are classified at the end of each trimester as follows:

1. Academic Student: A student enrolled in a program for which the goal is a degree (BS, AS, or AT) and is enrolled in or has earned one or more credit hours.
   a. Preparatory: enrolled in Preparatory Program
   b. Freshman: earned 29 or fewer credit hours
   c. Sophomore: earned 30-59 credit hours
   d. Junior: earned 60-99 credit hours
   e. Senior: earned 100 or more credit hours

2. Flight and Maintenance Technology Students: Students enrolled in technical programs for which the goal is a certificate; or an academic student earning a prerequisite technical certificate.
   a. An Aircraft Maintenance Technology student is classified by the number of the full-time trimester in which he is enrolled — first, second, etc.
   b. A Flight Technology student is classified by the Phase in which he is enrolled.
3. Special: A student not seeking a specified degree or certificate and not enrolled in a program.
   a. Special Student: receives credit as appropriate
   b. Auditor: does not receive credit for courses
   c. Special Flight Student: taking Flight Technology courses only

Academic Students, Special Students, Auditors and Special Flight Students are classified as full-time students if carrying 14 or more credit or non-credit hours; otherwise, they are classified as part-time students. Technology students carrying 30 clock-hours are full-time students. Technology students may be classified full-time students as described in the curricula.

Auditing

A student may audit one or more courses without credit. (The fee for auditing is the same as for registering for credit.) At no time can a student registered for audit receive credit.

A student who has registered to audit may change to credit only during the published drop-add period.

A student who has registered for a course for credit may change to audit during the first fourth of the course.

Changes from audit to credit or from credit to audit are made in a manner similar to adding and dropping a course. The Add-Drop Fee applies.

Students auditing a course may be dropped for poor attendance with a grade of "W," at the discretion of the instructor.

Academic Probation and Suspension

Academic probation is imposed when the cumulative honor-point average of any student falls below the following levels:

Hours attempted	14 or fewer	15-29	30-44	45-59	60-74	75 or more
GPA	1.5	1.6	1.7	1.8	1.9	2.0

Probation status will be removed whenever the GPA is equal to or greater than the level shown above.

If a student does not meet the above criterion in the trimester succeeding the one in which he was placed on academic probation, he is eligible for suspension for one trimester. Final decision for dismissal will be the responsibility of the Division Chairman.

If academic probation or academic suspension is removed by the conversion of a grade of "I" to a grade of "A," "B," "C," or "D," the academic probation or academic suspension will not become a part of the permanent academic record.

Dismissal from the Institute

When a student makes application for entrance to ERAI he thereby understands and agrees that the Institute reserves the right to dismiss him at any time if his conduct or academic standing is regarded by the Institute as undesirable, without assigning any further reason therefor. Upon enrollment it is understood and agreed that the Institute or any of its officers, administrative staff, or faculty shall not be liable in any way for such exclusion.

Graduation Requirements

In order to graduate from any academic or vocational program, a student must:

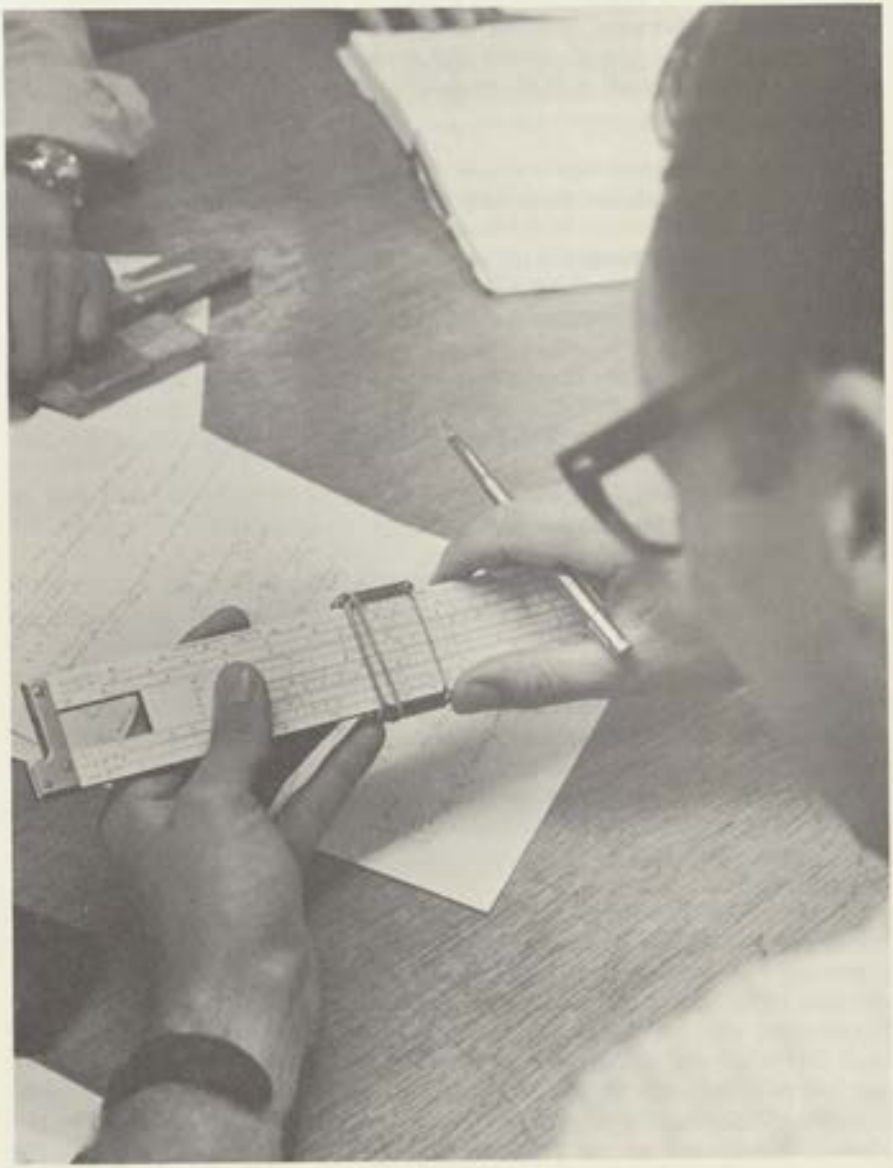
1. Successfully complete all required courses. (Certification by the Registrar and the Division Chairman are required that all courses required have satisfactorily been completed, as specified in the ERAI Bulletin in effect when the student entered the program. A student may elect to graduate in accordance with a later Bulletin.)
2. Have been in residence at ERAI for two or more trimesters, and have completed a minimum of 30 hours of work at ERAI (degree only).
3. Have obtained a final honor-point average of 2.0 or better (70% in Flight and Maintenance Technology Programs).
4. Satisfy all financial obligations.
5. Be recommended by the Dean of Faculties.
6. Participate in graduation ceremonies unless excused by special permission.

Application for a degree or certificate must be initiated by the student and received (after appropriate recommendations, approvals, and fee payment have been made) by the Registrar eight weeks before the end of the trimester when the degree or certificate is to be awarded.

Two degrees of the same rank—e.g., BSAE and BSAMET—will not be conferred upon the same individual unless the additional degree represents at least 30 credit hours of additional work, with the necessary honor-point average.

When a student's enrollment at ERAI is continuous, graduation according to the curriculum in effect when he entered the program is permitted, providing the courses required are offered by the Institute. Continuous enrollment is full-time enrollment in two-thirds of the trimesters since the student entered the program, provided that he (1) misses no more than one trimester in succession and (2) is enrolled in at least two trimesters in succession when enrolled, except for students participating in authorized cooperative programs. If one or more courses are no longer offered, the faculty of the Division concerned will make adjustment for the student as are appropriate for the program involved.

COLLEGE OF AERONAUTICAL STUDIES CURRICULA



Freshman Students

The Embry-Riddle College of Aeronautical Studies will consider for admission graduates of recognized high schools or other accredited secondary schools. Applicants who have been awarded high school equivalency diplomas also will be considered. All applications for admission must be accompanied either by an authenticated high school record or photocopy of an equivalency diploma. In the case of an equivalency diploma a transcript of high school work completed should be included. The Admissions Committee will also consider students who meet the General Requirements for Admission to the Institute.

Transfer Students

A candidate for admission who has attended other recognized colleges or universities must (a) complete the requirements for admission already listed, (b) arrange for official transcripts to be sent directly to the Director of Admissions from the Registrar of *each* institution attended, and (c) if requested, present a catalog of the institution from which he transfers, marked to indicate courses taken.

Students may transfer credit from approved institutions of higher education under the following provisions:

(1) The student must be considered readmittable by the previous institutions which he has attended.
(2) Only those courses completed with "C" or better are transferable.
(3) Only after 15 credit hours in residence at Embry-Riddle have been completed with a grade-point average of 2.0.

Students transferring less than 16 hours of credit or entering on probation from another institution will be required to take the ACT examination as described under "Placement Tests," and will be subject to the regulations stated there.

Registration

Applicants who have been accepted will be notified promptly and will receive registration instructions prior to the date established for registration. The applicant must have ACT headquarters in Iowa City, Iowa, forward his score transcript to the guidance counselor at ERAI. It is necessary for this transcript to have arrived one month prior to the campus administration of the ACT for the trimester in which the student will enroll. If neither the transcript *nor* campus administration deadlines have been met, a student wishing to enroll in a degree program will be charged a fee of $150. This fee is necessary to defray cost of individual administration of the ACT ($100) and late registration ($50).

Placement Tests

The American College Testing (ACT) program is required for any student interested in entering a degree program, either Baccalaureate or Associate. The Scholastic Aptitude Test (SAT) is not acceptable as a substitute.

Since the ACT is given four times per year on a nationwide basis, it should be convenient for the student to take the test before arriving on campus. He may contact his high school guidance counselor or principal to determine the location of the nearest testing center. When he registers for the test, his transcript should indicate in the proper space that a transcript of his scores will be sent to our Institute.

If the transcript of his scores has not reached the Institute as registration period draws near, he will be notified to arrive early to be given the ACT on campus ($7.00 fee). It is to the student's best advantage to have taken the ACT before arriving on campus as he may then advise as to his course of action prior to arrival at Embry-Riddle.

The ACT does not determine approval or disapproval for admission. However, when scores in the various subject areas indicate a weakness, the student is required to enroll in a battery of preparatory courses to improve his skills in that area. Such courses must be passed with C or better before the student may progress with academic work. The preparatory course curriculum cost is the same as regular tuition fees; however, no college credit is given for such courses. Veterans may wish to inquire as to how their VA payments will be affected.

Physical Education

All students enrolled in degree programs are required to complete Physical Education courses as described by the curricula.

Students who have reached the age of 30 prior to admission to the Institute, those excused by medical certification, and veterans of two or more years of active duty in the armed forces of the United States are exempted. (Veterans must file proof of service with the Registrar.)

Transfer of Physical Education course work from another institute may be allowed by the Division Chairman.

No more than one course of Physical Education may be credited in one trimester, except on approval by the Dean of Faculties.

Registration for Continued Enrollment

After admission, matriculation, and initial registration a student must register for each trimester in which he plans to enroll. Tuition desposit payment, registration, and payment of fees must be made in accordance with instructions published by the Registrar.

Appropriate late fees are charged for late registration, late payment of fees, and late start of classes. Late registration will be allowed during the first week of classes if unusual circumstances prohibited the student from registering during the proper registration period. (The late registration fee of $50 applies in such cases.) Under no circumstances will registration be allowed after that time.

Students changing class schedules after completing registration will be charged a $10.00 Add/Drop Fee for each course withdrawal (drop), for each course added, and for each change of section. (When a change is made by direction of the Institute, the charge does not apply.)

Students failing to maintain continuous enrollment (as described on page 38 for any reason, are required to re-apply for admission.

Change of Program

If a student wishes to change his academic or technical program, after he has been admitted, he must apply for such change through the Office of the Registrar. Such change will be effective at the beginning of the trimester following completion of requirements for the change.

BACHELOR OF SCIENCE DEGREE CURRICULUM in AERONAUTICAL ENGINEERING

This program is designed to provide the graduate with the skill and knowledge needed to pursue a career as an aeronautical engineer in industry or government. Also it will prepare the student for additional studies at the graduate level. Extensive coverage is given to the broad areas of mathematics, the physical sciences, and the engineering sciences. Aerodynamics, aircraft structures, propulsion, and aeronautical design are covered in depth. The theoretical studies are supplemented with laboratory work which provides the student with a knowledge of experimental methods.

Subject No.		Subject	Lecture	Lab.	Credits
FIRST TRIMESTER					
HU	100	English Composition I	3	0	3
MA	102	College Algebra	3	0	3
MA	103	Trigonometry	2	0	2
PS	105	Chemistry I	3	3	4
ET	101	Engineering Graphics I	1	5	2
SS	101	World History	3	0	3
					17
SECOND TRIMESTER					
HU	102	Technical Report Writing	2	0	2
MA	201	Calculus & Analytic Geometry I	5	0	5
PS	106	Chemistry II	3	3	4
ET	102	Engineering Graphics II	1	5	2
SS	201	American History	3	0	3
HU	101	English Composition II	3	0	3
					19*
THIRD TRIMESTER					
MA	202	Calculus & Analytic Geometry II	5	0	5
PS	201	Physics I	4	3	5
EC	100	Introductory Economics	3	0	3
HU	202	Public Speaking	2	0	2
SS	205	Psychology	3	0	3
					18

*The student will not be charged for the extra credit over 18 in this trimester provided he has registered for indicated courses.

FOURTH TRIMESTER

MA	205	Differential Equations	3	0	3
PS	202	Physics II	4	3	5
ES	201	Statics	3	0	3
ES	203	Fluid Mechanics	3	0	3
AE	311	Aircraft Systems Laboratory	0	3	1
		Humanities Elective	2	0	2
					17

FIFTH TRIMESTER

MA	301	Advanced Engineering Mathematics I	3	0	3
ES	301	Strength of Materials	3	0	3
ES	305	Thermodynamics	3	0	3
AE	301	Aerodynamics I	4	0	4
ES	307	Metallurgy & Materials Science	3	0	3
ES	311	Materials & Processes Laboratory	0	3	1
					17

SIXTH TRIMESTER

MA	302	Advanced Engineering Mathematics II	3	0	3
AE	302	Aerodynamics II	3	0	3
AE	304	Aircraft Structures I	3	0	3
ES	303	Dynamics	3	0	3
AE	310	Wind Tunnel Laboratory	1	3	2
AE	312	Airframe Laboratory	0	3	1
		Technical Elective	3	0	3
					18

SEVENTH TRIMESTER

AE	401	Advanced Aerodynamics I	3	0	3
AE	404	Aircraft Structures II	3	0	3
AE	420	Aircraft Design I	2	3	3
ES	404	Electrical Theory	3	0	3
ES	401	Mechanical Vibrations	3	0	3
		Technical Elective	3	0	3
					18

EIGHTH TRIMESTER

AE	421	Aircraft Design II	0	6	3
AE	406	Jet & Rocket Propulsion	3	0	3
ES	405	Electronics	2	3	3
ES	403	Heat Transfer	3	0	3
AE	411	Aircraft Propulsion Laboratory	0	3	1
AE	405	Aircraft Structures III	2	0	2
		Technical Elective	3	0	3
					18

Physical Education (4 trimesters)

TOTAL CREDITS 142

ASSOCIATE OF SCIENCE DEGREE CURRICULUM IN AERONAUTICAL ENGINEERING TECHNOLOGY

A graduate of this program will be prepared for employment as an engineering technician in the aerospace industry. The necessary basic sciences, engineering sciences, and technical skills, which the engineering technicians must apply to support engineering activities, are included in this program. The Aeronautical Engineering Technology Curriculum provides a background well suited for continuing formal education in this field.

Subject No.	Subject	Lecture	Lab.	Credits
FIRST TRIMESTER				
HU 100	English Composition I	3	0	3
MA 102	College Algebra	3	0	3
MA 103	Trigonometry	2	0	2
PS 105	Chemistry I	3	3	4
ET 101	Engineering Graphics I	1	5	2
SS 101	World History	3	0	3
				17
SECOND TRIMESTER				
HU 102	Technical Report Writing	2	0	2
MA 201	Calculus & Analytic Geometry I	5	0	5
PS 106	Chemistry II	3	3	4
ET 102	Engineering Graphics II	1	5	2
SS 201	American History	3	0	3
HU 101	English Composition II	3	0	3
				19*
THIRD TRIMESTER				
HU 202	Public Speaking	2	0	2
MA 202	Calculus & Analytic Geometry II	5	0	5
PS 201	Physics I	4	3	5
EC 100	Introductory Economics	3	0	3
SS 205	Psychology	3	0	3
				18

*The student will not be charged for the extra credit over 18 in this trimester provided he has registered for indicated courses.

FOURTH TRIMESTER

ET	301	Aircraft Drafting	0	6	2
MA	205	Differential Equations	3	0	3
PS	202	Physics II	4	3	5
ES	201	Statics	3	0	3
ES	203	Fluid Mechanics	3	0	3
					16

FIFTH TRIMESTER

AE	311	Aircraft Systems Laboratory	0	3	1
ES	301	Strength of Materials	3	0	3
ES	305	Thermodynamics	3	0	3
ES	303	Dynamics	3	0	3
AE	301	Aerodynamics I	4	0	4
ES	307	Metallurgy and Materials Science	3	0	3
ES	311	Materials and Processes Laboratory	0	3	1
					18

SIXTH TRIMESTER

ES	404	Electrical Theory	3	0	3
AE	302	Aerodynamics II	3	0	3
AE	304	Aircraft Structures I	3	0	3
AE	310	Wind Tunnel Laboratory	1	3	2
AE	312	Airframe Laboratory	0	3	1
ET	302	Aircraft Detail Design	0	6	2
ET	210	Aircraft Systems and Components	4	0	4
					18

Physical Education (2 trimesters)

TOTAL CREDITS 106

BACHELOR OF SCIENCE DEGREE CURRICULUM IN AIRCRAFT MAINTENANCE ENGINEERING TECHNOLOGY

This program is designed to produce qualified maintenance engineering technicians. It is similar to the aeronautical engineering technology program and includes airframe and powerplant mechanic training. A graduate maintenance engineering technician would provide support for engineering activities associated with the overhaul, repair, and modification of aircraft. All candidates for graduation must fulfill the requirements of the Airframe and Powerplant Mechanic Curriculum, page 68.

Subject No.	Subject	Lecture	Lab.	Credits
FIRST TRIMESTER				
HU 100	English Composition I	3	0	3
MA 102	College Algebra	3	0	3
MA 103	Trigonometry	2	0	2
PS 105	Chemistry I	3	3	4
ET 101	Engineering Graphics I	1	5	2
SS 101	World History	3	0	3
				17
SECOND TRIMESTER				
HU 102	Technical Report Writing	2	0	2
MA 201	Calculus & Analytic Geometry I	5	0	5
PS 106	Chemistry II	3	3	4
ET 102	Engineering Graphics II	1	5	2
SS 201	American History	3	0	3
HU 101	English Composition II	3	0	3
				19*
THIRD TRIMESTER				
SS 205	Psychology	3	0	3
HU 202	Public Speaking	2	0	2
MA 202	Calculus & Analytic Geometry II	5	0	5
PS 201	Physics I	4	3	5
EC 100	Introductory Economics	3	0	3
				18

*The student will not be charged for the extra credit over 18 in this trimester provided he has registered for indicated courses.

FOURTH TRIMESTER

ET	301	Aircraft Drafting	0	6	2
MA	205	Differential Equations	3	0	3
PS	202	Physics II	4	3	5
ES	201	Statics	3	0	3
ES	203	Fluid Mechanics	3	0	3
					16

FIFTH TRIMESTER

ES	303	Dynamics	3	0	3
ES	301	Strength of Materials	3	0	3
ES	305	Thermodynamics	3	0	3
AE	301	Aerodynamics I	4	0	4
ES	307	Metallurgy and Materials Science	3	0	3
ES	311	Materials and Processes Laboratory	3	0	1
					17

SIXTH TRIMESTER

MA	301	Advanced Engineering Mathematics I	3	0	3
AE	302	Aerodynamics II	3	0	3
AE	304	Aircraft Structures I	3	0	3
AE	310	Wind Tunnel Laboratory	1	3	2
		Technical Electives	6	0	6
					17

SEVENTH TRIMESTER

ET	215	Electrical Technology	3	3	4
AE	404	Aircraft Structures II	3	0	3
AE	420	Aircraft Design I	2	3	3
ET	302	Aircraft Detail Design	0	6	2
		Technical Electives	3	0	3
		Humanities Electives	2	0	2
					17

Physical Education (4 trimesters)

TOTAL CREDITS 121

ASSOCIATE OF SCIENCE DEGREE CURRICULUM IN AIRCRAFT MAINTENANCE ENGINEERING TECHNOLOGY

This program is designed to produce qualified maintenance engineering technicians. It is similar to the aeronautical engineering technology program and includes airframe and powerplant mechanic training. A graduate maintenance engineering technician would provide support for engineering activities associated with the overhaul, repair, and modification of aircraft. All candidates for graduation must fulfill the requirements of the Airframe and Powerplant Mechanic Curriculum, page 68.

Subject No.	Subject	Lectures	Lab	Credits
FIRST TRIMESTER				
HU 100	English Composition I	3	0	3
MA 102	College Algebra	3	0	3
MA 103	Trigonometry	2	0	2
PS 105	Chemistry I	3	3	4
ET 101	Engineering Graphics I	1	5	2
SS 101	World History	3	0	3
				17
SECOND TRIMESTER				
HU 102	Technical Report Writing	2	0	2
HU 101	English Composition II	3	0	3
MA 201	Calculus and Analytic Geometry I	5	0	5
PS 106	Chemistry II	3	3	4
ET 102	Engineering Graphics II	1	5	2
SS 205	Psychology	3	0	3
				19*
THIRD TRIMESTER				
HU 202	Public Speaking	2	0	2
MA 202	Calculus & Analytic Geometry II	5	0	5
PS 201	Physics	4	3	5
EC 100	Introductory Economics	3	0	3
ET 301	Aircraft Drafting	0	6	2
				17

*The student will not be charged for the extra credit over 18 in this trimester provided he has registered for indicated courses.

FOURTH TRIMESTER

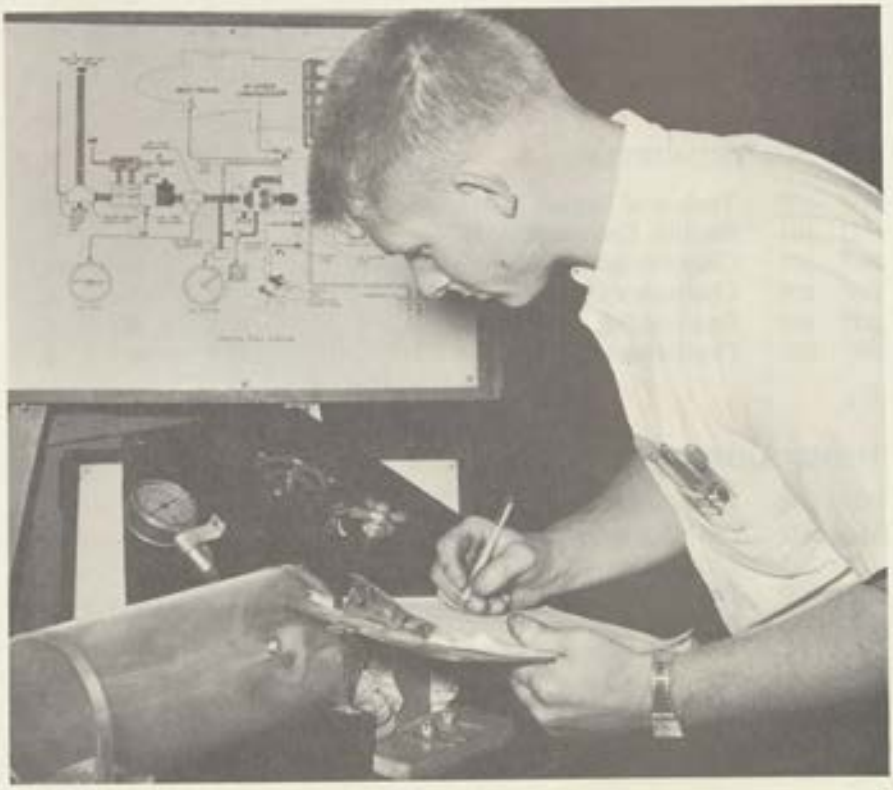
MA	205	Differential Equations	3	0	3
PS	202	Physics II	4	3	5
ES	201	Statics	3	0	3
ES	203	Fluid Mechanics	3	0	3
		Humanities Electives	2	0	2
					16

FIFTH TRIMESTER

ES	303	Dynamics	3	0	3
ES	301	Strength of Materials	3	0	3
ES	305	Thermodynamics	3	0	3
AE	301	Aerodynamics I	4	0	4
ES	307	Metallurgy and Materials Science	3	0	3
ES	311	Materials and Processes Lab	3	0	1
					17

Physical Education (2 trimesters)

TOTAL CREDITS 86



BACHELOR OF SCIENCE DEGREE CURRICULUM IN AVIATION MANAGEMENT

The objective of this program is to provide the basic education and specialized knowledge to prepare graduates to enter the aviation business administration and management profession.

Subject No.	Subject	Lectures	Lab	Credits
FIRST TRIMESTER				
HU 100	English Composition I	3	0	3
MA 100	College Mathematics	4	0	4
PS 101	Physical Science I	3	0	3
SS 101	World History	3	0	3
EC 100	Introductory Economics	3	0	3
				16
SECOND TRIMESTER				
HU 101	English Composition II	3	0	3
SS 203	Sociology	3	0	3
PS 102	Physical Science II	3	0	3
SS 201	American History	3	0	3
MS 210	Accounting I	3	0	3
				15
THIRD TRIMESTER				
HU 102	Technical Report Writing	2	0	2
MS 211	Business Law	3	0	3
MS 310	Management Accounting	3	0	3
EC 101	Economics I	3	0	3
SS 301	American National Government	3	0	3
MS 309	Data Processing Systems	3	0	3
				17
FOURTH TRIMESTER				
SS 205	Psychology	3	0	3
GA 101	History of Aviation	3	0	3
EC 201	Economics II	3	0	3
HU 202	Public Speaking	2	0	2
HU 307	Contemporary Literature	3	0	3
MS 312	Business Statistics	3	0	3
				17

FIFTH TRIMESTER

GA	205	Government and Aviation	3	0	3
MS	301	Principles of Management	3	0	3
EC	301	Economic Geography	3	0	3
HU	408	Fine Arts I	2	0	2
EC	310	Labor Economics	3	0	3
		Elective	3	0	3
					17

SIXTH TRIMESTER

MS	311	Marketing	3	0	3
MS	313	Personnel Management	3	0	3
HU	409	Fine Arts II	2	0	2
MS	410	Finance	3	0	3
		Electives	6	0	6
					17

SEVENTH TRIMESTER

MS	401	Management Planning and Control	3	0	3
MS	413	Psychology of Management	3	0	3
MS	420	Industrial Management	3	0	3
		Electives	9	0	9
					18

EIGHTH TRIMESTER

MS	430	Management Information Systems	3	0	3
MS	412	Applications of Management Science	3	0	3
		Humanities/Social Science Elective	3	0	3
		Electives	9	0	9
					18

Physical Education (4 trimesters)

TOTAL CREDITS 135

ASSOCIATE OF SCIENCE DEGREE CURRICULUM IN AVIATION MANAGEMENT

The objective of this program is to provide the student with an understanding of and competence in the management aspects of the Aviation industry. Graduates of this curriculum may consider employment in many areas, to include: Airport Management, Airframe and Powerplant industries, Air Carriers, in Flight Services Operations, or in a government agency serving the Aviation Community.

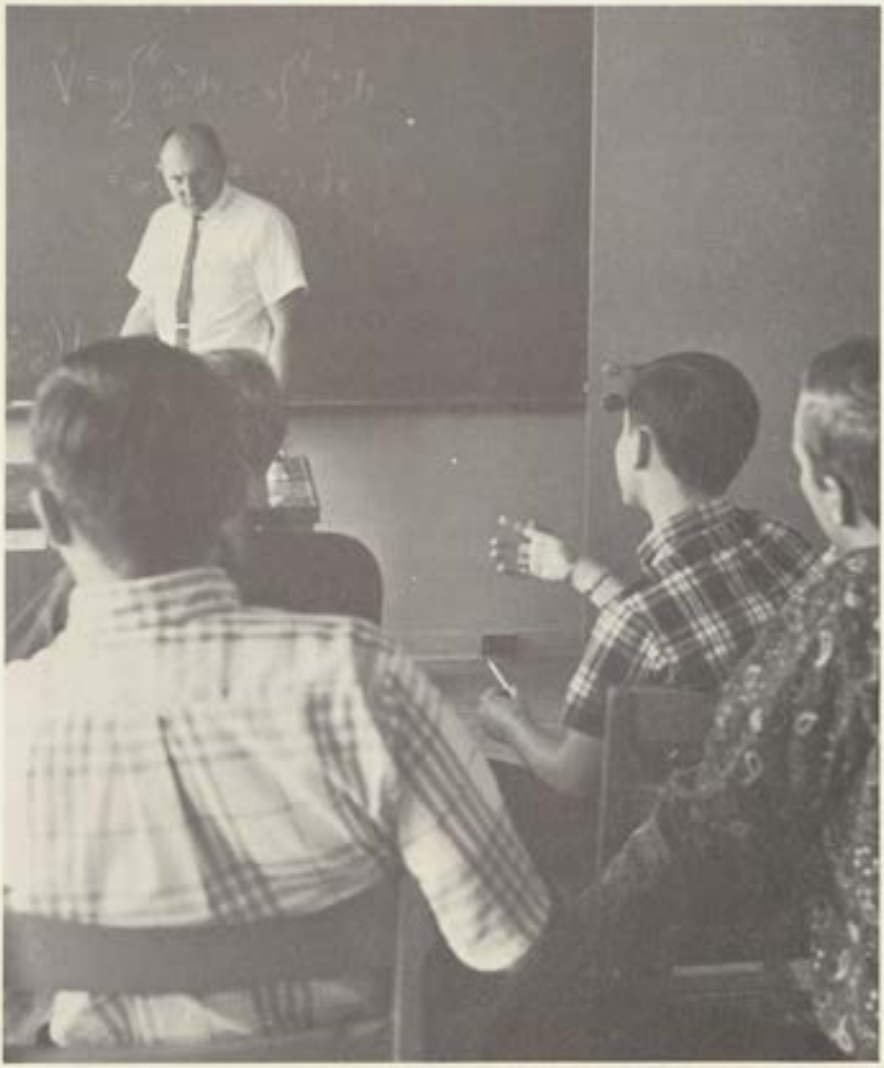
Subject No.	Subject	Lectures	Lab	Credits
FIRST TRIMESTER				
HU 100	English Composition I	3	0	3
MA 100	College Mathematics	4	0	4
PS 101	Physical Science I	3	0	3
SS 101	World History	3	0	3
EC 100	Introductory Economics	3	0	3
				16
SECOND TRIMESTER				
HU 101	English Composition II	3	0	3
SS 203	Sociology	3	0	3
PS 102	Physical Science II	3	0	3
SS 201	American History	3	0	3
MS 210	Accounting I	3	0	3
				15
THIRD TRIMESTER				
HU 102	Technical Report Writing	2	0	2
MS 211	Business Law	3	0	3
MS 310	Management Accounting	3	0	3
EC 101	Economics I	3	0	3
SS 301	American National Government	3	0	3
MS 309	Data Processing Systems	3	0	3
				17
FOURTH TRIMESTER				
SS 205	Psychology	3	0	3
GA 101	History of Aviation	3	0	3
EC 201	Economics II	3	0	3
HU 202	Public Speaking	2	0	2
HU 307	Contemporary Literature	3	0	3
MS 312	Business Statistics	3	0	3
				17

FIFTH TRIMESTER

GA	205	Government and Aviation	3	0	3
MS	301	Principles of Management	3	0	3
EC	301	Economic Geography	3	0	3
HU	408	Fine Arts I	2	0	2
EC	310	Labor Economics	3	0	3
		Elective	3	0	3
					17

Physical Education (2 trimesters)

TOTAL CREDITS 82



BACHELOR OF SCIENCE DEGREE CURRICULUM IN AERONAUTICAL SCIENCE

The objective of this program is to provide the knowledge and skill necessary to enter the aviation field as a professional pilot. General education and aviation related subjects are combined with flight training and are programmed and conducted to produce a pilot of professional competence. Major areas of study include management, economics, engineering technology and general aviation. Incident to completion of the curriculum, the student becomes qualified to obtain the Federal Aviation Administration commercial pilot certificate and instrument and multi-engine ratings. Graduates of this program may consider employment as flight crew members and/or in administrative positions with the airlines, general aviation, governmental organizations or other aviation-related industries.

Subject No.	Subject	Lectures	Lab	Credits
FIRST TRIMESTER				
FC 101	Primary Flight	0	3	1
HU 100	English Composition I	3	0	3
GA 101	History of Aviation	3	0	3
MA 100	College Mathematics	4	0	4
GA 100	Introduction to Flight	4	0	4
				15
SECOND TRIMESTER				
FC 112	Basic Flight	0	4	1
GA 102	Navigation I	3	0	3
GA 103	Flight Rules and Regulations	3	0	3
HU 101	English Composition II	3	0	3
PS 101	Physical Science I	3	0	3
GA 307	Flight Physiology	2	0	2
				15
THIRD TRIMESTER				
FC 201	Advanced Flight I	0	4	1
ET 110	A/C Engines—Reciprocating	3	2	4
GA 201	Meteorology	3	0	3
GA 309	Basic Aerodynamics	3	0	3
PS 102	Physical Science II	3	0	3
EC 100	Introductory Economics	3	0	3
				17

FOURTH TRIMESTER

FC	202	Advanced Flight II	0	3	1
HU	102	Technical Report Writing	2	0	2
ET	111	A/C Engines—Turbine	3	2	4
GA	202	Navigation II	3	0	3
EC	101	Economics I	3	0	3
SS	101	World History	3	0	3
					16

FIFTH TRIMESTER

FC	301	Instrument Flight	0	3	1
ET	210	A/C Systems and Components	3	2	4
SS	205	Psychology	3	0	3
GA	205	Government and Aviation	3	0	3
EC	201	Economics II	3	0	3
MS	210	Accounting I	3	0	3
					17

SIXTH TRIMESTER

FC	306	Multi-Engine Laboratory	0	2	1
GA	308	Aircraft Performance	3	0	3
MS	301	Principles of Management	3	0	3
MS	211	Business Law	3	0	3
EC	301	Economics Geography	3	0	3
HU	202	Public Speaking	2	0	2
		Elective	3	0	3
					18

SEVENTH TRIMESTER

GA	305	Aviation Law	3	0	3
GA	310	Air Carrier Operations	3	0	3
MS	310	Management Accounting	3	0	3
MS	313	Personnel Management	3	0	3
		Electives (Humanities/Social Sciences)	5	0	5
					17

EIGHTH TRIMESTER

FC	(open)	Flight Elective	0	3	1
GA	408	Flight Safety	3	0	3
MS	413	Psychology of Management	3	0	3
SS	301	American National Government	3	0	3
		Electives	6	0	6
					16

Physical Education (4 trimesters)

TOTAL CREDITS 131

ASSOCIATE OF SCIENCE DEGREE CURRICULUM IN AERONAUTICAL SCIENCE

The objective of this program is to provide the student who is interested in a career as a general aviation pilot a college-level educational program in both aviation-related and other academic fields while he attains a high level of professional competence as a pilot. Incident to completion of the curriculum the student becomes qualified to obtain the Federal Aviation Administration Commercial Pilot Certificate with instrument rating.

Subject No.		Subject	Lecture	Lab.	Credits
FIRST TRIMESTER					
FC	101	Primary Flight	0	3	1
HU	100	English Composition I	3	0	3
GA	101	History of Aviation	3	0	3
MA	100	College Mathematics	4	0	4
GA	100	Introduction to Flight	4	0	4
					15
SECOND TRIMESTER					
FC	112	Basic Flight	0	4	1
GA	102	Navigation I	3	0	3
GA	103	Flight Rules and Regulations	3	0	3
HU	101	English Composition II	3	0	3
PS	101	Physical Science I	3	0	3
GA	307	Flight Physiology	2	0	2
					15
THIRD TRIMESTER					
FC	201	Advanced Flight I	0	4	1
ET	110	A/C Engines — Reciprocating	3	2	4
GA	201	Meteorology	3	0	3
GA	309	Basic Aerodynamics	3	0	3
PS	102	Physical Science II	3	0	3
EC	100	Introductory Economics	3	0	3
					17

FOURTH TRIMESTER

FC	202	Advanced Flight II	0	3	1
HU	102	Technical Report Writing	2	0	2
ET	111	A/C Engines — Turbine	3	2	4
GA	202	Navigation II	3	0	3
EC	101	Economics I	3	0	3
SS	101	World History	3	0	3
					16

FIFTH TRIMESTER

FC	301	Instrument Flight	0	3	1
ET	210	A/C Systems and Components	3	2	4
HU	202	Public Speaking	2	0	2
GA	205	Government and Aviation	3	0	3
EC	201	Economics II	3	0	3
MS	210	Accounting I	3	0	3
					16

Physical Education (2 trimesters)

TOTAL CREDITS 79

ASSOCIATE OF SCIENCE DEGREE CURRICULUM
AIRLINE STEWARDESS

The airlines prefer girls with a college background to those applicants who have less formal education, even though both may possess equally good personal qualifications. This curriculum is designed to give the potential stewardess an aviation-oriented college background to qualify her for airline employment.

Subject No.	Subject	Lecture	Lab.	Credits
FIRST TRIMESTER				
HU 100	English Composition I	3	0	3
MA 100	Basic College Mathematics	4	0	4
SS 101	World History	3	0	3
HU 205	Elementary Spanish	2	3	3
GA 101	History of Aviation	3	0	3
PE 101	Physical Education	0	0	0
				16
SECOND TRIMESTER				
HU 101	English Composition II	3	0	3
SS 205	Psychology	3	0	3
SS 201	American History	3	0	3
HU 305	Intermediate Spanish	2	3	3
HU 202	Public Speaking	2	0	2
	General Aviation Elective			3
PE 102	Physical Education	0	0	0
				17
THIRD TRIMESTER				
SS 203	Introduction to Sociology	3	0	3
HU 405	Advanced Spanish	1	4	3
EC 301	Economic Geography	3	0	3
PS 101	Physical Science I	3	0	3
SS 206	Personality Development	3	0	3
				15
FOURTH TRIMESTER				
PS 102	Physical Science II	3	0	3
EC 420	Economics of Air Transportation	3	0	3
SS 406	Contemporary Latin America	3	0	3
GA 310	Air Carrier Operations	3	0	3
	General Aviation Elective			3
				15
	TOTAL REQUIRED COURSES			57
	ELECTIVES			6
	TOTAL HOURS			63

ASSOCIATE OF TECHNOLOGY DEGREE CURRICULUM IN AIRCRAFT MAINTENANCE MANAGEMENT

This program is designed to prepare the Airframe and Powerplant Mechanic for managerial positions by enabling him to develop writing skills and advance his general overall knowledge at the college level. Upon successful completion of the MM course, the student may take the FAA examination for the FAA Airframe and Powerplant Mechanic certificate, and may be awarded the ERAI Airframe & Powerplant Mechanic certificate. A maximum of six trimesters will be required to complete the curriculum.

Subject No.	Subject	Lecture	Lab.	Credits
MM 111	Aircraft Structures Management	1	15	7
MM 112	Powerplant Systems Management	1	15	7
MM 113	Aircraft Systems Management	1	15	7
MM 114	Electrical Systems Management	1	15	7
MM 215	Jet Propulsion Systems Management	1	15	7
MM 216	Powerplant Maintenance Management	1	15	7
MM 217	Aircraft Repair Management	1	15	7
MM 218	Aircraft Assembly Management	1	15	7
MA 100	College Math	4	0	4
EC 100	Introductory Economics	3	0	3
HU 100	English Composition I	3	0	3
SS 205	Psychology	3	0	3
PS 101	Physical Science I	3	0	3
ET 101	Engineering Graphics I	0	6	2
SS 201	American History	3	0	3
MS 210	Accounting I	3	0	3
EC 101	Economics I	3	0	3
HU 102	Technical Report Writing	2	0	2
HU 202	Public Speaking	2	0	2
	Physical Education (2 trimesters)	0	4	0
	Total Credits			87

COLLEGE OF AVIATION TECHNOLOGY CURRICULA

DIVISION OF MAINTENANCE TECHNOLOGY

Introduction

The Maintenance Technology Division is an approved training center, operating under Air Agency Certificate #277, issued by the Federal Aviation Administration of the United States of America. Courses offered in this division give the student actual experience by classroom instruction, shop practice, and "on the job" training. In the Embry-Riddle repair station, many types of engines, aircraft and accessories are overhauled and returned to service. This provides an opportunity for students to learn first hand the construction, operation, overhaul and maintenance of powerplants and structural components of aircraft.

Admission

Applicants will be considered for admission who have graduated from accredited high schools with satisfactory records. Non high school graduates who have been awarded high school equivalency diplomas or have completed work at accredited technical institutes with satisfactory grades and are in good standing at the last school attended also will be considered.

In certain cases, mature applicants who fail to meet the above requirements but present other suitable criteria, such as honorable service in the Armed Forces or employment experience will be considered for admission.

Transfer Students

Federal Aviation Regulation Part 147, Sub part C, para. 147.31 (c) sets forth rules regarding credit for previous training, and requires testing on any subjects considered for credit. These tests include questions on Federal Aviation regulations and procedures as well as the technical aspects.

Generally speaking, the new student experienced in the military aviation mechanic field has no knowledge of Federal Aviation Administration rules, regulations and procedures. He is entering an approved school to prepare himself for work in civil aviation where he will be operating in most cases under regulations much different than those he encountered in the military.

During the first trimester of the four trimester 1800 hour course, the Chairman, Maintenance Technology, counsels students with previous military and/or civilian training and, where the Chairman feels that the students are becoming well versed in the F.A.A. procedures, tests are administered (in accordance with F.A.R. 147) to determine whether or not they will be allowed to omit part of the curriculum. The total number of training hours are then dropped from the maximum of 1800 to whatever level is indicated by the test results.

Schedule

The Maintenance Technology Division operates on a schedule which permits enrollment every 7½ weeks. Classes are in session 6 hours per day or 30 hours per week.

Attendance

Absences in excess of three consecutive 6-hour classes *or* any four 6-hour class absences in a four week period during an SL subject will be considered cause for interruption or dismissal for students enrolled in the Maintenance Technology Division.

Grading System

The Maintenance Technology Division uses the numerical grading system of 0 to 100. Students are graded in three areas.

They are:

a. Results obtained on written examinations.
b. Performance in shop projects.
c. Application of effort, attention to duty, attitude and ability to get along with fellow students.

Grades are made a matter of permanent record and are available to the FAA and prospective employers.

Graduation

Embry-Riddle awards a Certificate of Graduation to all students successfully completing any of the F.A.A. approved courses. This document certifies that the bearer has graduated from an FAA approved school. It must be presented to the appropriate official before taking the FAA A & P Mechanic license examinations. In addition graduates receive the Embry-Riddle Aeronautical Institute Diploma.

FAA Written, Practical and Oral Examinations

The final step in becoming a certified mechanic is successful completion of the FAA written test (knowledge requirement) and practical and oral examination (skill requirement). A student may elect to take this test and examination wherever he chooses or take advantage of the certification program which Embry-Riddle Aeronautical Institute offers. This program is neither part of the regular curriculum nor are the hours counted as part of the minimum requirements. It consists of written tests, and practical and oral examinations. Each applicant must satisfactorily complete each phase of testing with a grade of 70% or better to be eligible for his FAA mechanics certificate. A fee of $25.00 is charged for this service which includes the use of necessary equipment and material.

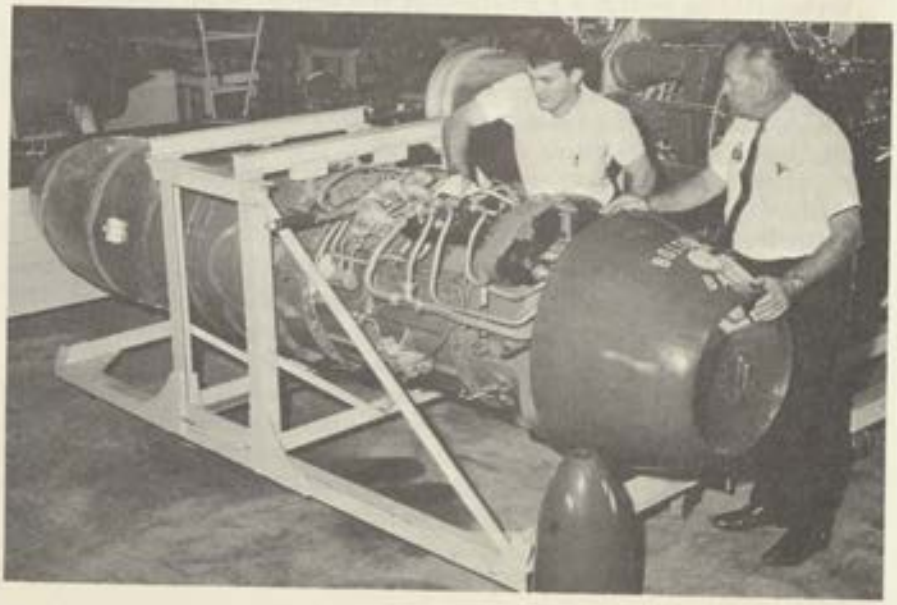
AIRFRAME AND POWERPLANT MECHANIC CURRICULUM

4 Trimesters (15 Weeks Each)

This course is a combination of the Airframe and Powerplant curriculums and provides a total of 1800 classroom and shop hours for the teaching of all the skills necessary to provide the graduate with a theoretical and practical knowledge, as well as a manipulative ability to repair aircraft, engines and systems. In addition, the graduate is repeatedly tested to ensure that he possesses adequate knowledge to successfully pass the FAA examination for the Airframe and Powerplant Certificate which will permit him to sell his services to the public as a government-certified aviation mechanic.

Trimester	Subject No.	Subject
First	SL 011	Basic Aircraft Science
	SL 012	Basic Powerplant Science
Second	SL 013	Aircraft Systems
	SL 014	Electrical Laboratory
Third	SL 015	Jet Propulsion Lab.
	SL 016	Engine & Accessory Overhaul
Fourth	SL 017	Aircraft Structures
	SL 018	Weight and Balance, Propellers and Course Review.

Total hours..... 1800



AIRFRAME MECHANIC CURRICULUM

2½ Trimesters (15 Weeks Each)

The course limits its study to the airframe subjects and licensing requirements of the Airframe and Powerplant Mechanic Curriculum described above.

Trimester	Subject No.	Subject
First	SL 011	Basic Aircraft Science
	SL 013	Aircraft Systems
Second	SL 014	Electrical Laboratory
	SL 017	Aircraft Structures
Third	SL 018	Weight and Balance, Propellers and Course Review.

Total hours..... 1125

POWERPLANT & TURBINE ENGINE MECHANIC CURRICULUM

2½ Trimesters (15 weeks each)

This course limits its study to the powerplant subjects and licensing requirements of the Airframe and Powerplant Mechanic Curriculum described above.

Trimester	Subject No.	Subject
First	SL 012	Basic Powerplant Science
	SL 014	Electrical Laboratory
Second	SL 015	Jet Propulsion Lab.
	SL 016	Engine & Accessory Overhaul
Third	SL 018	Weight and Balance, Propellers and Course Review.

Total hours..... 1125

DIVISION OF FLIGHT TECHNOLOGY

Introduction

The Division of Flight Technology conducts flying training and ground school to prepare individuals for the various Federal Aviation Administration (FAA) pilot certificates. The Division also conducts special flight training courses for students enrolled in the Aeronautical Science curriculum.

Advanced standing may be granted in any flight course. A student desiring advanced standing and credit for previous flight experience may apply upon entering school.

The Professional Flight Program is not administered in accordance with the trimester academic calendar. Flight class schedules are included in the brochure material which supplements the Bulletin.

Embry-Riddle utilizes modern, late model aircraft. These aircraft are scrupulously maintained and are equipped with up-to-date radio and electronic navigation devices. Students accomplish multi-engine flight training in the Twin Beech D-18 or Douglas DC-3. Full time instructors give close personal attention to each student from the time of his initial orientation to the day he graduates regardless of the course in which he is enrolled.

In order to obtain one or more FAA pilot certificates, a student must pass a written examination, satisfy prescribed hours of flying experience and must demonstrate proficiency in executing certain flight maneuvers. The flight courses described herein provide the minimum training necessary to qualify for the respective FAA ratings. If additional flying hours are needed to meet proficiency standards, this time is charged at the rate per hour indicated on page 28. When considering these rates, one should realize that the cost covers training administered according to adequate standards by a staff specifically organized for this purpose.

Admission

Students will be admitted who meet the general requirements for admission and the physical qualifications for a flight training program. Prior to being accepted into a flight training program, a student must produce evidence that he has qualified for at least the Airman's Class III Medical Certificate. If the student's goal is beyond the Private Pilot level, he should assure himself that he meets the medical qualifications. To be eligible for the Commercial License, a student must possess an Airman's Class II Medical Certification. Airline employers generally require the Airman Class I Certification, which is required for the Air Transport Rating.

Transfer of Previous Flight Experience

A student desiring advanced standing and credit for previous flight experience in the Aeronautical Science degree curriculum must produce official documents from the institution previously attended indicating the type of ground and flight training and the number of hours of each successfully completed. The maximum number of flight hours which may be accepted from an approved institution is 80 hours.

Each student seeking advanced standing in any flight program will be subject to an evaluation flight, which will determine his position in his program. A flat charge of $20 is made for the evaluation flight. Students should also be aware that any flight training deficiencies uncovered during the evaluation flight may result in additional training periods.

Schedules

The flight line is open for scheduled flights throughout the week. Each student is responsible for meeting flight and ground training commitments as scheduled.

Attendance

Students exceeding maximum absenses (excused or unexcused) of 7.5 hours for 75 hour ground training courses or 15.0 hours for 150 hour ground training courses will be given an unsatisfactory grade for the respective course at the discretion of the instructor and with approval of the Department Head.

Graduation

Embry-Riddle awards the Certificate of Graduation to all students successfully completing any of the FAA approved courses. This document certifies that the bearer has graduated from an FAA approved school and must be presented to the appropriate official before taking the FAA Flight Examinations. In addition, those graduates completing the Intermediate Phase of the Professional Pilot Program will receive the Embry-Riddle Aeronautical Institute Diploma.

FAA Written and Flight Examinations

FAA written examinations are administered locally upon completing approved ground courses. Flight tests are given by Embry-Riddle Staff FAA Flight Examiners.

PROFESSIONAL PILOT PROGRAM CURRICULUM

This program is concerned exclusively with teaching students how to fly. Students receive concentrated training in various types of flying, including instrument and multi-engine flight. Ground school subjects, closely correlated with flying, round out the students' professional training. Successful completion of the Intermediate Phase makes students eligible for Federal Aviation Administration commercial pilot certificates with the instrument and flight instructor ratings.

PRIMARY PHASE (Six weeks)

Subject No.	Subject	Training Hours
AS 003	Commercial Ground School I	45
FC 100	Primary Flight	50
	Flight Hours—45	

INTERMEDIATE PHASE (Six Months)

AS 009	Commercial Ground School II & III	150
AS 017	Aircraft Engines & Systems	75
AS 021	Instrument Ground School	75
AS 042	Fundamentals of Flight Instructing	75
FC 200, 240 or 260	Commercial Flight	181
FC 301	Instrument Flight	45
FC 404	Flight Instruction Flight	37
	Accumulated Flight Hours—218	

ADVANCED FLIGHT ELECTIVES

FC 306	Multi-Engine Laboratory
FC 401	Advanced Instrument Flight
FC 407	Multi-Engine Flight II
FC 409	Instrument Flight Instructor

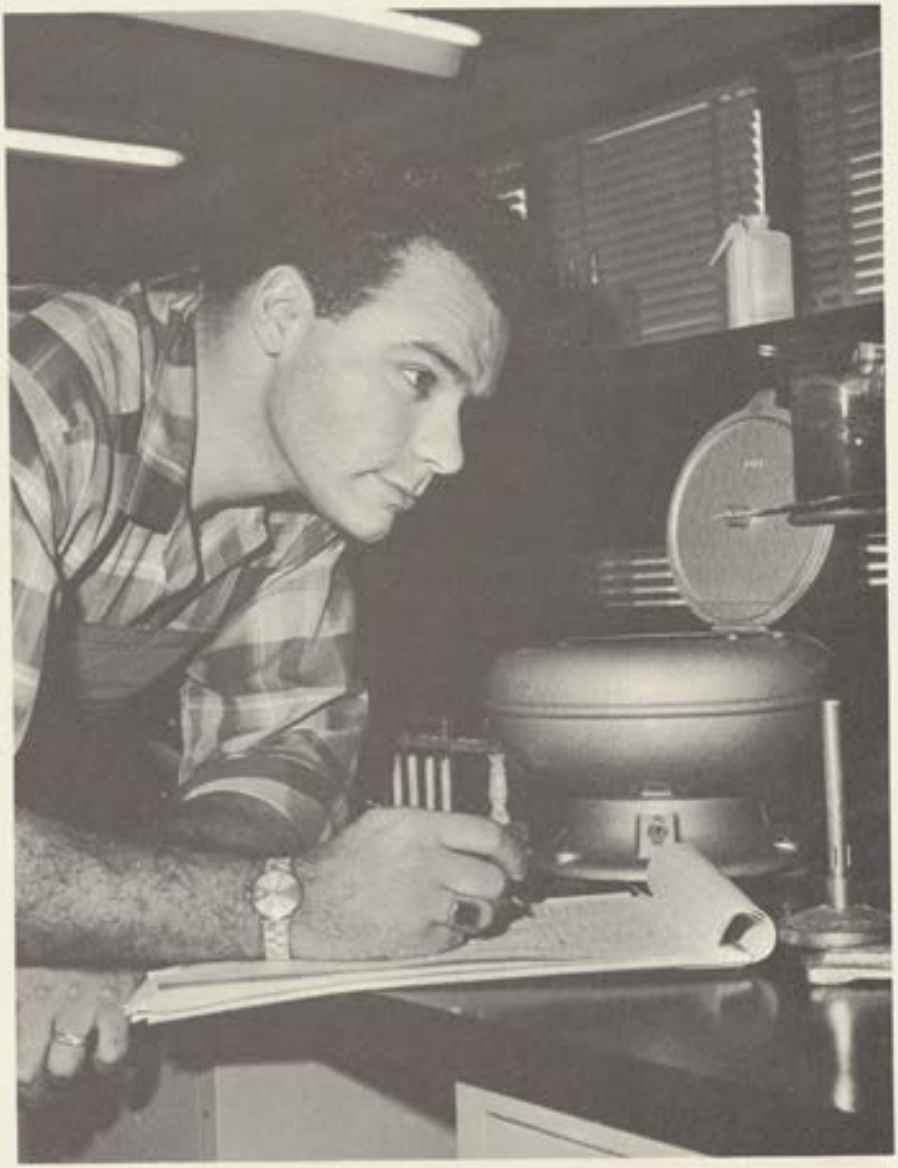
COMBINED AERONAUTICAL PROGRAMS

Students who are enrolled at Embry-Riddle in programs other than Professional Pilot, Associate in Aeronautical Science, or Bachelor in Aeronautical Science, may elect to receive flight training while pursuing their other studies. Successful completion of the phases of the curriculum outlined below makes the student eligible for Federal Aviation Administration certificates and ratings at the level indicated. The schedule outlined below is a guide for students enrolled in combined programs. Additional flight electives are available as the student's basic technical or academic schedule permits.

Trimester	Subject No.	Subject	Equivalent Credit Hours*
First	AS 003	Commercial Ground School I	2
	FC 101	Primary Flight	
		Private Graduation Certificate	
		Flight Hours—45	
Second	AS 007	Commercial Ground School II	2
	FC 112	Basic Flight	
Third	AS 008	Commercial Ground School III	2
	FC 201	Advanced Flight I	
Fourth	AS 021	Instrument Ground School	2
	FC 202	Advanced Flight II	
		Commercial Graduation Certificate	
		Accumulated Flight Hours—173	
Fifth	AS 017	Aircraft Engines & Systems	2
	FC 301	Instrument Flight	
		Instrument Graduation Certificate	
		Accumulated Flight Hours—198	
Sixth	FC 306	Multi-Engine Laboratory	
		Multi-Engine Graduation Certificate	
		Accumulated Flight Hours—213	

*Charges for ground school subjects may be included in trimester academic tuition. Equivalent hours will be used in computing ground school charges.

COURSE DESCRIPTIONS



COURSE DESCRIPTIONS
DEPARTMENT OF AERONAUTICAL ENGINEERING

AE 301—AERODYNAMICS I 4 Credits

A study of the atmosphere and the fundamental dynamics and thermodynamics of air. Laminar and turbulent boundary layers and vortex motion. Development of lift drag and moment equations and their variation with Mach number and Reynolds number. Supersonic airfoil theory. Correlating factors influencing wing design. Theories of drag and their application. Momentum, blade element, and vortex theories of propellers. Prerequisites: MA 202, ES 203.

AE 302—AERODYNAMICS II 3 Credits

Static performance, including power required and power available for level flight. Effect of weight and altitude on power climb performance, ceiling determination, and time to climb. Special performance problems including take offs and landings, range, and endurance. Maneuvers such as spins, stalls, turning, gliding and diving. Theory of control surfaces and their design. Longitudinal, lateral and directional stability and control. Prerequisite: AE 301.

AE 304—AIRCRAFT STRUCTURES I 3 Credits

Structural analysis as applied to unsymmetrical cross sections, and introduction to shear flow. Prerequisite: ES 301.

AE 310—WIND TUNNEL LABORATORY 2 Credits

Speed setting calibration. Pressure distribution with multi-manometer of NACA airfoil on two dimensional wing and the calculation, tabulation, and plotting of the lift coefficent, center of pressure, pitching moment coefficient, and the profile and total drag coefficient at all flight angles of attack for both the plain wing and the wing with deflected flaps. Airfoil characteristics from data. Laminar, transition, and turbulent flow boundary layer. Three dimensional wing tip vortex flow direction and magnitude variation. Prerequisite: AE 301.

AE 311—AIRCRAFT SYSTEMS LABORATORY 1 Credit

Laboratory work with hydraulic, electric, propeller and fuel system mock-ups and cutaways.

AE 312—AIRFRAME LABORATORY 1 Credit

Airframe configurations and various aerodynamic and structural design features.

AE 401—ADVANCED AERODYNAMICS I 3 Credits

Kinematics and dynamics of a fluid field, stream function in two dimensional incompressible flow; theorem of stokes, Kuttajoukowski Theorem.

Introduction to compressible fluid, and some applications of one-dimensional compressible flow. Wave phenomena, normal shock, oblique shock, Prandtl-Meyer expansion waves and reflection of waves. Prerequisites: AE 301, AE 302, MA 302.

AE 402—ADVANCED AERODYNAMICS II 3 Credits

The dynamics of viscous fluid, boundary layers, Principle of Similarity; Transition and turbulent flow, Navier-Stokes Equations, Aerodynamic characteristic of wing, and real fluid effects in high speed flight. Prerequisite: AE 401.

AE 404—AIRCRAFT STRUCTURES II 3 Credits

Analysis of members of semi-monocoque structures, external loads on the airplane and air load distribution. Analysis of aircraft materials, members in combined stress joints and fittings. Prerequisite: AE 304.

AE 405—AIRCRAFT STRUCTURES III 2 Credits

Deflection of airplane structures, and statically indeterminate structures. Design of web in shear. Strain energy principle, method of least work and special method analysis. Prerequisite: AE 404.

AE 406—JET AND ROCKET PROPULSION 3 Credits

A study of ramjets, pulsejets, turbojets, and turboprops. Thrust and propulsion, engine efficiencies, fuel consumptions, nozzle flows and Rayleigh and Fanno line conditions. Subsonic and supersonic diffusers. Mass flow. Energy transfer. Centrifugal and Axial compressors. Engine and aircraft flight performance. Solid and liquid propellant rocket motors. Prerequisite: AE 401.

AE 411—AIRCRAFT PROPULSION SYSTEMS LABORATORY 1 Credit

A study of piston, jet, and rocket powerplant used in aircraft.

AE 420—AIRCRAFT DESIGN I 3 Credits

Principles of the design of modern aircraft to meet prescribed aerodynamic, structural, and performance specifications. Prerequisites: AE 302, and AE 304. Corequisite: AE 404.

AE 421—AIRCRAFT DESIGN II 3 Credits

Design of aircraft and aircraft components; projects encompassing the principles of the engineering and aeronautical sciences. Prerequisites: AE 420 and AE 404.

AE 450—SPECIAL TOPICS IN AERONAUTICAL ENGINEERING 1-6 Credits by arrangement

Lectures, laboratories, or seminars on selected topics in aeronautical engineering. Prerequisites: consent of instructor. May be repeated with a change of content.

DEPARTMENT OF AIR SCIENCE

AS 003—COMMERCIAL GROUND SCHOOL I

Theory and facts of flight. General service and flight safety in practice. Air traffic control and communications procedures. FAA regulations for the pilot. Aerial navigation meteorology as it affects the safe operation of aircraft and other aviation subjects in preparation for the FAA private pilot written examination.

AS 007—COMMERCIAL GROUND SCHOOL II

The first half of the subjects offered in AS 009 for students in combined aeronautical programs.

AS 008—COMMERCIAL GROUND SCHOOL III

The second half of the subjects offered in AS 009 for students in combined aeronautical programs.

AS 009—COMMERCIAL GROUND SCHOOL II & III

Continuation and advanced study of the subjects in AS 003 in preparation for the FAA commercial pilot written examination.

AS 017—AIRCRAFT ENGINES AND SYSTEMS

A comprehensive study of technical terminology including the "language" of maintenance; aircraft engines and accessories; aircraft systems; aircraft structure, stress and certification; maintenance procedures, methods, practices and the servicing of aircraft.

AS 021—INSTRUMENT GROUND SCHOOL

A study of the basic principles, dependability and use of flight instruments. Weather phenomena affecting flight operations. Navigation, including all radio enroute, and landing aids; enroute and terminal area charts. Instrument flight planning using FAA publications covering instrument flight rules, regulations and procedures in preparation for the FAA instrument pilot written examination.

AS 042—FUNDAMENTALS OF FLIGHT INSTRUCTING

A study of the fundamentals of teaching and learning; effective teaching methods; instructional management; aeromedical information for instructors; instructor responsibilities; flight training syllabus; federal regulations for instructors and maneuver analysis in preparation for the FAA flight instructor airplane written examination.

DEPARTMENT OF ECONOMICS

EC 100—INTRODUCTORY ECONOMICS 3 Credits

An introduction to and an overview of the economic factors affecting industrial organizations and other business enterprises. Business: its nature, environment, and opportunities; ownership, management and organization; marketing; operational factors; personnel; finance; quantitative controls for decision-making; legal and regulatory environment of business.

EC 101—ECONOMICS I 3 Credits

An introduction to economic principles, problems and policies with emphasis on macroeconomic theory, business fluctuations, fiscal and monetary policy, economic growth and comparative economic systems. Prerequisite: EC 100.

EC 201 ECONOMICS II 3 Credits

A continuation of Economics I, with emphasis on price and distribution theory, and international trade. Prerequisite: EC 101.

EC 301—ECONOMIC GEOGRAPHY 3 Credits

Study of regional variation on the earth's surface in man's activities related to producing, exchanging and consuming wealth. Commercial bioculture, mining, manufacturing, transportation and trade studied. Tertiary economic activity and measurement, theory, and planning in relation to regions and communities stressed. Prerequisite: EC 201

EC 310—LABOR ECONOMICS 3 Credits

A survey of the economics of the labor market: wage determination and unemployment. Labor organization, labor legislation and current developments in labor relations. Prerequisite: EC 201.

EC 420—ECONOMICS OF AIR TRANSPORTATION 3 Credits

A study of the economic aspects of airways, airports, federal aid and regulation, air carriers, general aviation, and the manpower requirements of the civil aviation industry. Prerequisite: MS 330, GA 205.

DEPARTMENT OF ENGINEERING SCIENCE

ES 201—STATICS 3 Credits

Fundamental concepts and definitions of forces, moments, and couples. Components and resultants of force systems. Equilibrium of force systems. Analysis of trusses, frames and cables. Friction, centroids and moments of inertia. Prerequisites: MA 201, MA 202.

ES 203—FLUID MECHANICS 3 Credits

Fluid properties and definitions. Fluid statics. Basic concepts and equations of fluid-flow. Viscous effects. Reynolds number. Dimensional analysis and dynamics similitude. Flow through pipe and two-dimensional ideal fluid flows. Prerequisite: MA 202.

ES 301—STRENGTH OF MATERIALS 3 Credits

Stresses and strains in tension, compression and shear. Torsion. Shear and bending moment in beams. Fixed and continuous beams. Deflections of beams. Analysis of plane stress and strain. Columns. Riveted and welded connections. Energy methods. Theories of failure. Prerequisite: ES 201.

ES 303—DYNAMICS 3 Credits

Kinematics and kinetics of translation, rotation and general plane motion; work, energy, and power; impulse, momentum, and impact. Prerequisite: ES 201.

ES 305—THERMODYNAMICS 3 Credits

The various processes of energy exchanges between heat and mechanical power with certain gases and vapors for the design of all types heat engines, turbines, missiles, compressors, and refrigerators. A study of all basic laws and principles governing both the non-flow and steady-flow processes fundamental in performance cycles of equipment mentioned, whether by use of different ideal gases, vapors, or mixtures. Prerequisites: MA 202, PS 202.

ES 307—METALLURGY AND MATERIALS SCIENCE 3 Credits

A study of the fundamental nature of metals, alloys, and plastics with emphasis on those used in the aircraft industry. Crystal structure, crystallization, and elements of the solid state semiconductors. Phase and equilibrium diagrams. Heat treatment of steel and other alloys. Surface hardening methods and methods of shaping materials. Various physical tests of materials. Materials-joining processes. Corrosion and its prevention. High temperature problems. Prerequisites: PS 202, PS 105, and PS 106.

ES 311—MATERIALS AND PROCESSES LABORATORY 1 Credit

Sheet metal. Welding. Riveting, power grinding, power saw, nibbler, drill press, lathe, rolls, crimping machine. Basic shop procedures. Corequisite: ES 307.

ES 401—MECHANICAL VIBRATIONS 3 Credits

Fundamental principles. Rotation. Simple harmonic motion. Complex numbers. Undamped and damped free vibration. Forced vibration. Two-degrees of freedom. Multi-mass torsional and transverse systems. Equivalent torsional systems. Balancing. Dynamic Dampers. Prerequisites: ES 303 and MA 205.

ES 403—HEAT TRANSFER 3 Credits

Thermal condition. Dimensional analysis. Free and forced convection. Conduction and convection and radiation combined. Experimental establishment of conductives and emissivities. Prerequisite: ES 305.

ES 404—ELECTRICAL THEORY 3 Credits

Fundamental principles of electric and magnetic circuits and the application of these principles to the theory and performance of direct and alternating-current machines. A study of DC and AC circuits, vacuum-tube characteristics, and electronic devices. Prerequisites: PS 202, MA 205.

ES 405—ELECTRONICS FOR ENGINEERS 3 Credits

Fundamentals of electronics; electronic devices; electronic design, circuits and systems; communications and radar. Prerequisite: ES 404.

ES 407—ADVANCED STRENGTH OF MATERIALS 3 Credits

Unsymmetrical bending, curved beams, torsion, thick-walled cylinders, stress concentrations, thin plates and shells, and energy methods. Prerequisite: ES 301.

ES 409—SPACE MECHANICS 3 Credits

Review of mathematical and mechanical fundamentals including vectors. The two-body problem; orbits, satellite launch; cotangential transfer between circular orbits; interception and rendezvous; long range ballistic trajectories. Gyrodynamics and Gyroscopic instruments, precession and nutation, gyrocompass, stable and three-axes platform, inertial navigation. Vehicle motion. Performance and Optimization single and multi-stage rocket, flight trajectories, utilization of propellant, gravity turn. Generalized theories of Mechanics: system with constraints, generalized coordinates, D'Alembert and Hamilton's principles, LaGrange equations, Missile Dynamics Analysis. Prerequisites: ES 303 and MA 301.

ES 411—MECHANICAL BEHAVIOR OF MATERIALS 3 Credits

Engineering materials under tension, compression and shear. Impact, fatigue, creep, theories of failure, and environmental effects. Prerequisite: ES 301.

ES 450—SPECIAL TOPICS IN ENGINEERING SCIENCE 1-6 Credits (by arrangement)

Lectures, laboratories, or seminars on selected topics in engineering science. Prerequisite: Consent of instructor. May be repeated with a change of content.

DEPARTMENT OF ENGINEERING TECHNOLOGY

ET 101—ENGINEERING GRAPHICS I 2 Credits

Principles of lettering. Drawing instruments and their use. Linework code and drafting techniques. Geometrical constructions. Multi-view projection. Sectional and auxiliary revolutions. Dimensioning, shop processes and tolerances. Threads and fasteners.

ET 102—ENGINEERING GRAPHICS II 2 Credits

Continuation of Engineering Drawing I. Detail and assembly drawings. Comparison of the following methods of graphic representation: orthographic, axonometric, oblique and perspective projections. Introduction of descriptive geometry; the principles of orthographic projection applied to the solution of three dimensional problems. Space relationship of points, lines and planes. Curved and wrapped surfaces. Intersections and developments. Vector applications. Prerequisite: ET 101.

ET 110—AIRCRAFT ENGINES—RECIPROCATING 4 Credits

Types of reciprocating engines; theory of engines and principles of operation; power and its measurement; BMEP; ratings; general operating instructions including starting, ground operation, cold weather operation and flight operation; turbo-charging; types, purpose and results of supercharging.

ET 111—AIRCRAFT ENGINES—TURBINE 4 Credits

Study of gas turbine fundamentals including thrust, factors affecting thrust, gas generator, mach number, thrust specific fuel consumption, engine station designations, diffusers and diffusion, types of gas turbine engines. Turbine engine components including turbofan engine fan sections, compressors, fuel manifolds and nozzles, thrust reversers, noise supressors, fuel systems and fuel controls, turboprop fuel controls and propellor governors; gas turbine engine operation; engine operational characteristics.

ET 210—AIRCRAFT SYSTEMS AND COMPONENTS 4 Credits

A comprehensive study of aircraft systems including: fuel systems, oil systems, hydraulic systems, electrical systems; pressurization systems and de-ice and anti-ice systems. Conventional and unconventional flight control system. Types of aircraft structure and stresses on the aircraft.

ET 215—ELECTRICAL TECHNOLOGY 4 Credits

D-C and A-C circuit analysis. Magnetism. Electron tubes and semiconductor devices. Applications of electronics. Instrumentation and measurements. Prerequisite: PS 202, 3 hours of lecture, 3 hours of lab.

ET 301—AIRCRAFT DRAFTING 2 Credits

General conventions. Layout drawings, detail drawings and assembly drawings. Local and general notes. Linework and lettering quality. Dimensioning conventions. Drafting of formed sheet metal parts, welded tube structures, mechanical parts, extrusions and standard aircraft parts. 6 hours drafting. Prerequisite: ET 102.

ET 302—AIRCRAFT DETAIL DESIGN 2 Credits

Projects include structural and mechanical design and specification of shop processes. Selection of various AN and NAS standard parts. Design of riveted, bolted and welded aircraft parts. Design of control cable and swedged end-fitting, control push-pull rod with turnbuckle, and end-fittings and torque tube with hinge bearing. Selection of optimum skin thickness and stiffener spacing in wing two-cell box beam. Prerequisite: ET 301. Corequisite: AE 304.

DEPARTMENT OF FLIGHT

FC 100—PRIVATE PILOT FLIGHT 0 Credit

Airplane registration, airworthiness, equipment documents, logbooks, and inspection reports, performance, range and operations; loading and line check. Preflight operations, taxiing, normal and crosswind takeoffs and landings; climbs, level flight and descents at normal and minimum controllable speeds; stalls and stall recoveries; 720° steep turns about a point; normal landings; short and soft field takeoffs and landings; slips; emergency operation of aircraft equipment; cross-country flight planning; cross-country flying; cross-country emergencies; use of radio aids to VFR navigation and control by reference to flight instruments in preparation for the FAA private pilot flight test.

FC 101—PRIMARY FLIGHT 1 Credit

Preflight operations; starting; taxiing; takeoffs and landings; airport traffic patterns; simulated emergencies; use of radio for communications; maneuvering at minimum controllable airspeed; stalls from all normally anticipated flight attitudes; primary instruments.

FC 112—BASIC FLIGHT 1 Credit

Airplane documents; airworthiness records; airplane performance; airplane loading; precision maneuvers; basic instruments; use of radio aids to VFR navigation; short and soft-field takeoffs and landings; introduction to cross-country flying; transition to different type aircraft; introduction to advanced precision maneuvers. Prerequisite: FC 101.

FC 201—ADVANCED FLIGHT I 1 Credit

Review and continued study of the subjects in FC 112; advanced precision maneuvers including chandelles, lazy eights and eights-on-pylons and 720° power turns; gliding spirals; 180° side approaches and 360° overhead approaches; accuracy landings. Prerequisite: FC 112.

FC 202—ADVANCED FLIGHT II 1 Credit

Review and continued study of the subjects in FC 201; extensive navigation training including radio navigation utilizing VHF and LF radio navigation aids; air surveillance radar approaches; night operations including night navigation; extensive basic instrument training including radar approach procedures. Prerequisite: FC 201.

FC 200, 240 or 260—COMMERCIAL FLIGHT 0 Credits

Review of the subjects in FC 100 with the following additional subjects: gliding spirals; eights-on-pylons; 720° power turns; lazy eights; and chandelles in preparation for the FAA commercial pilot flight test. Prerequisite: Private pilot license or equivalent experience.

FC 301—INSTRUMENT FLIGHT 1 Credit

Instrument flight planning; filing an instrument flight plan; aircraft performance, range and fuel requirements; required instrumentation and equipment and their proper use; advanced instrument flight techniques; recovery from unusual attitudes; emergency procedures; IFR navigation and instrument approach procedures including VOR, ILS, DME and ADF and radar approach procedures; holding procedures; missed approach procedures, compliance with ATC procedures including actual IFR cross-country flying. Prerequisite: FC 202, 200, 240 or 260 or equivalent experience.

FC 306—MULTI-ENGINE LABORATORY 1 Credit

Multi-engine aircraft systems, loading and performance; VMC_1 and V_2 speeds; theories of multi-engine flight; preflight procedures; basic airwork; landings and takeoffs; cruise control and fuel management; emergency procedures-general, engine-out emergencies; night landings and takeoffs; multi-engine instrument flight including all types of approaches; emergency procedures in instrument flight including engine-out instrument approaches and missed aproaches. Prerequisite: FC 301 or equivalent experience.

FC 401—ADVANCED INSTRUMENT FLIGHT 1 Credit

Advanced training for the Instrument rated Commercial Pilot including instrument flight planning; instrument cross-country flying; instrument enroute procedures and navigation; instrument approach procedures of all types; emergency procedures. Prerequisite: Commercial License and Instrument Rating.

FC 404—FLIGHT INSTRUCTION FLIGHT 1 Credit

Practice in the explanation and demonstration of all prescribed flight maneuvers and the practical in-flight application of teaching techniques and methods, in preparation for the FAA flight Instructor flight test. Prerequisite: AS 042 and Commercial certificate.

FC 407—MULTI-ENGINE FLIGHT II 0 Credits

A review of the procedures in FC 306 in aircraft with gross weight in excess of 12,500 pounds leading to a "type rating" with instrument qualifications. Aircraft used for this training is the Douglas DC-3. Prerequisite: FC 306 or equivalent experience.

FC 409—INSTRUMENT FLIGHT INSTRUCTOR LABORATORY 1 Credit

Training in the practical application of instruction techniques as applied to instrument flying. Prerequisite: AS 042 and Instrument rating.

DEPARTMENT OF GENERAL AVIATION

GA 100—INTRODUCTION TO FLIGHT 4 Credits

An introduction to aeronautics including elemenatry aerodynamics, basic aircraft systems, basic medical facts for pilots, FAA regulations for private and commercial pilots, pilotage and dead reckoning, basic radio navigation, elementary radio communications and aviation weather facts.

GA 101—HISTORY OF AVIATION 3 Credits

An interpretative survey of the evolution of flight from the earliest recordings to the present. Emphasis is placed on the effect of aviation on civilization and culture.

GA 102—NAVIGATION I 3 Credits

A study of the construction and use of maps and charts; dead reckoning and pilotage techniques and procedures; solution and application of navigation problems; use of the Airman's Information Manual and radio navigation aids. Prerequisite: GA 100.

GA 103—FLIGHT RULES AND REGULATIONS 3 Credits

A study of governmental rules and regulations concerning flight as they pertain to the pilot and his aircraft. Prerequisite: GA 100.

GA 201—METEOROLOGY 3 Credits

A study of weather, how and why it forms, the problems it presents and solutions to those problems; interpretation of weather maps, sequence reports; aviator's estimation of weather development; includes study of weather from sea level to 60,000 feet, the jet stream and clear air turbulence.

GA 202—NAVIGATION II 3 Credits

A study of radio navigation techniques and procedures; use of the navigation computer in solving complex navigation problems; radio navigation charts; use of the Airman's Information Manual; and instrument flying procedures. Prerequisite: GA 102.

GA 205—GOVERNMENT AND AVIATION 3 Credits

A study of the structure and functions of government organizations which regulate the aviation industry: Department of Transportation, National Transportation Safety Board, CAB, FAA, and ICAO.

GA 305—AVIATION LAW 3 Credits

A study of the chronological development of air law; federal and state regulatory functions; rights and liabilities of aviators and operators, rights of third parties on the ground; case history study; liens and security interest in aircraft; international conference, bi-lateral and multi-lateral

agreements and treaties; national and international criminal statutes pertaining to aviation. Prerequisite: GA 205.

GA 307—FLIGHT PHYSIOLOGY 2 Credits

Aeromedical information of significance to pilots. Hypoxia, Anoxia, Vertigo, vision, hearing, spatial disorientation, general health, drugs and other factors including the psychological aspects of flight.

GA 308—AIRCRAFT PERFORMANCE 3 Credits

A comprehensive study of the performance characteristics of modern reciprocating, turbo-prop, and jet aircraft; application of weight and balance, cruise control, performance curves, charts and operating data for obtaining highest degree of flight efficiency. Prerequisites: PS 101 and PS 102.

GA 309—BASIC AERODYNAMICS 3 Credits

A study of the basic principles of aerodynamics, including airfoil shapes and characteristics, aerodynamic forces, pitching moments and stall patterns, thrust and power curves, aircraft performance, high speed characteristics, stability and control, and aircraft strength. Prerequisite: MA 100.

GA 310—AIR CARRIER OPERATIONS 3 Credits

A study of organization, management, and over-all operating procedures of U. S. Air Carriers in intra-state, inter-state, overseas, and foreign operations; the influence of economic and technical regulation of air carriers; a study of IATA including its relationship with ICAO, ATA, and labor unions; national policy and the airline industry. Prerequisite: GA 205.

GA 401—AIRPORT DEVELOPMENT 3 Credits

An exploration into the techniques of developing an airport in conjunction with the Federal Aviation Regulations, local and state government agencies, and projected aviation needs. An overview of the problem of developing airports, including research and awareness with emphasis on the proper preparation of an Airport Master Plan. Two (2) lectures per week and one 2-hour laboratory per week. Prerequisite: EC 420.

GA 408—FLIGHT SAFETY 3 Credits

A study of accident prevention and flight safety programs including various preventive measures centered upon definitive areas causing accidents. The course includes a study of accident case histories and the physiological and psychological aspects of flight safety. Prerequisite: GA 307 and GA 309.

DEPARTMENT OF HUMANITIES

HU 001—PREPARATORY ENGLISH 0 Credits

Designed to improve competence in reading, writing, and speaking the English language. Guided studies in grammar and mechanics, in sentence and paragraph construction, in reading and vocabulary building, in pronunciation and articulation.

HU 100 & 101—ENGLISH COMPOSITION 3 Credits each

This course is designed to build individual proficiency in the expression of thoughts into writing. It consists of instruction in sentence construction, parts of speech, vocabulary and rules of writing. Instruction stresses the importance to an engineer of being able to write well. During the course students prepare compositions, business correspondence and long form reports.

HU 102—TECHNICAL REPORT WRITING 2 Credits

The student becomes familiar with and adept at handling all phases of industrial publications. Includes memorandum writing; staff studies; long form technical reports; advertising and illustrations; graphs, tables and charts, and beginning library research. Prerequisite: HU 100.

HU 202—PUBLIC SPEAKING 2 Credits

Fundamentals of voice production, improvement of vocal quality, pitch and intensity. Group and individual exercises for improving articulation and enunciation on speech sounds. Practice in analysis and delivery of various types of public speeches. Introduction to organization, phrasing and diction. Prerequisite: HU 100.

HU 205—ELEMENTARY SPANISH CONVERSATION AND READING 3 Credits

Basic grammar and reading. Introduction to conversation. Not open to students with two or more units of high school Spanish. Two hours lecture; three hours lab.

HU 303—INTRODUCTION TO LOGIC 3 Credits

Principles of valid thinking; the nature of inductive and deductive inference and its applications.

HU 305—INTERMEDIATE SPANISH CONVERSATION AND READING 3 Credits

Continuation of HU-205. Two hours lecture; three hours lab.

HU 306—MASTERPIECES OF WORLD LITERATURE 3 Credits

Homer to the Renaissance, including Aeschylus, Sophocles, Euripides, Thucydides, Plato, Virgil, Cicero, St. Augustine, Dante, Boccaccio, Machiavelli, Rabelais, Cervantes, Chaucer. Prerequisites: HU 100, HU 101.

HU 307—CONTEMPORARY LITERATURE 3 Credits

The mainstreams of literature of this century are discussed in a critical way. Each author is analyzed as to his technique, philosophy, and biographical influences. Representative writings from France, England, America, Italy, Russia, Ireland, Germany, Spain and Scandinavia are studied for their impact on English-speaking readers. Prerequisites: HU 100 and HU 101.

HU 308—AMERICAN LITERATURE 3 Credits

Major writers from the seventeenth to the twentieth century, including William Byrd, Cotton Mather, Franklin, Hawthorne, Melville, Whitman, Poe, Emerson, Thoreau, James, Howells, Crane, Bierce, Dreiser, Dickinson, Frost, Hemingway, Fitzgerald, Faulkner. Prerequisite: HU 100, HU 101.

HU 402—RELIGIONS OF MANKIND 3 Credits

A survey of the major religions of the world, including Judaism, Christianity, Islam, Hinduism, Buddhism and Confucianism, along with a brief examination of the development of religion as a vital aspect of man's experience in history.

HU 404—INTRODUCTION TO PHILOSOPHY 3 Credits

An integrated study of man and the concepts of this culture, including views about himself, society, philosophy and the arts.

HU 405—ADVANCED SPANISH CONVERSATION AND READING 3 Credits

Continuation of HU 205 and 305 with emphasis on development of high fluency in conversation and reading. Four hours lab; one hour lecture.

HU 408—FINE ARTS I (art) 2 Credits

This course serves as an introduction to the fine and functional arts. The student is led through a graded series of problems in design to develop an appreciation of good and functional dimension. The course strives to develop the student's critical judgment in evaluating art.

HU 409—FINE ARTS II (music) 2 Credits

This course serves as an introduction to the history and appreciation of music that lives. Recordings, readings, and lectures with some report work on the part of the student make up the basis of the course.

DEPARTMENT OF MATHEMATICS

MA 001—PREPARATORY MATHEMATICS 0 Credits

Review of Algebra and Geometry; emphasis on effective study of mathematics; objective of course is to prepare the student who is deficient in mathematics for successful pursuit of the study of required mathematics courses in the degree programs ultimately chosen by the student.

MA 100—BASIC COLLEGE MATHEMATICS 4 Credits

Fundamental arithmetic and algebraic operations. Equations. Functions and Graphs. Exponents. Geometry. Statistics. Introduction to Trigonometry.

MA 102—COLLEGE ALGEBRA 3 Credits

Sets, inequalities, functions, systems of equations, determinants, permutation and combinations, quadratic equations and partial fractions. Prerequisite: MA 001 or satisfactory score on placement tests.

MA 103—TRIGONOMETRY 2 Credits

Solution of right triangles, reduction formulas, functions of several angles and multiple angles, trigonometric equations, inverse functions and complex numbers. To be taken concurrently with MA 102.

MA 201—CALCULUS AND ANALYTIC GEOMETRY I 5 Credits

Graphs and equations of loci, lines, and conics. Limits. Differentiation of algebraic, trigonometric and exponential functions. Applications of first and second derivatives. Prerequisites: MA 102 and MA 103.

MA 202—CALCULUS AND ANALYTIC GEOMETRY II 5 Credits

Meaning and use of integration in problems of areas, volumes, centroids, moments. Polar coordinates. Solid analytic geometry. Partial derivatives. Multiple integrals. Series. Prerequiste: MA 201.

MA 205—DIFFERENTIAL EQUATIONS 3 Credits

Treatment of ordinary differential equations including principal types of first and second order equations, simultaneous equations, and linear equations, with constant coefficients. Applications to physics and mechanics. The LaPlace Transform. Prerequisite: MA 202.

MA 301—ADVANCED ENGINEERING MATHEMATICS I 3 Credits

Vector algebra, differential and integral vector calculus, partial derivatives, line and surface integrals, matrices and cartesian tensors. Prerequisite: MA 205.

MA 302—ADVANCED ENGINEERING MATHEMATICS II — 3 Credits

Infinite series, Fourier series and orthogonal functions, functions of complex variables, partial differential equations. Prerequisite: MA 301.

MA 309—COMPUTER PROGRAMMING — 3 Credits

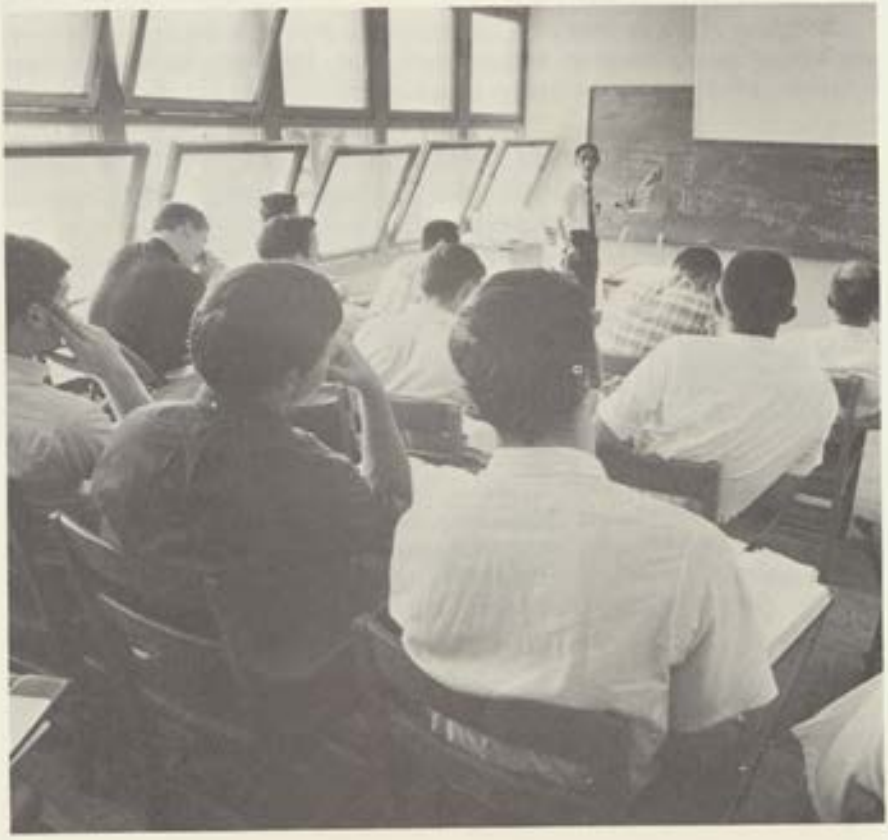
Fundamentals of computers; use of computers for engineering problem solving; programming and coding digital computers using FORTRAN IV; preparation and documentation of programs for engineering and scientific problems. Prerequisite: MA 102.

MA 403—COMPLEX VARIABLES — 3 Credits

Complex numbers. Analytic functions. Integrals. Derivatives. Powers series. Conformal mapping. Special functions. Applications. Prerequisite: MA 202.

MA 450—SPECIAL TOPICS IN MATHEMATICS — 3 Credits

Lectures or seminars covering specially selected topics in mathematics. Prerequisite: Consent of instructor.



DEPARTMENT OF MAINTENANCE MANAGEMENT

MM 111—AIRCRAFT STRUCTURES MANAGEMENT 5 Credits

Introduction to aircraft—major components, aircraft terminology, and theory of flight. Federal Air Regulation. Woodwork, dope, and fabric. Quality of material and method of repairs. Research of full-scale layouts of aircraft parts from prints. Estimation of materials needed for manufacture of aircraft. Cost analyses.

MM 112—POWERPLANT SYSTEMS MANAGEMENT 5 Credits

Theory of engines and principles of operation. Internal combustion engines—radial and opposed engines, carburetors, direct-injection fuel systems. Research and preparation of technical reports on supercharging and water injection.

MM 113—AIRCRAFT SYSTEMS MANAGEMENT 5 Credits

Methods of repair or replacement of aircraft components. Functions of pumps, pressure regulators, valves, actuators, power brakes, steering devices, and de-icing systems. Special studies in aviation fuels, fuel systems, air conditioning systems, pressurization systems, oxygen systems, hydraulics, brake systems, and vacuum systems.

MM 114—ELECTRICAL SYSTEMS MANAGEMENT 5 Credits

Fundamentals of aircraft electrical systems. Ohm's Law and impedance formulas. Theory of capacitance and induction. Theory and maintenance of AC and DC motors, generators, alternators, and motor controls. Installation of batteries, airframe wiring, conduit, junction boxes, relays, circuit protectors, switches, radios, and associated components. Independent studies in airframe electrical systems and powerplant ignition systems.

MM 215—JET PROPULSION SYSTEMS MANAGEMENT 5 Credits

Theory of jet propulsion. Principles of jet engine operation. Study of thrust—how it is affected, and humidity. Disassembly, inspection, reassembly, run-up, test, and trouble-shooting of "live" jet engines. Turbojet, turbofan, and turboprop engines and systems.

MM 216—POWERPLANT MAINTENANCE MANAGEMENT 5 Credits

Complete disassembly and overhaul of engines and accessories, including applicable repair and inspection procedure. Powerplant operation, trouble-shooting and test run-in procedures. Use of technical publications and details of records processes. Development of research skills in maintenance management, performing research in maintenance procedures, engine overhaul, powerplant inspection, or maintenance supervision.

MM 217—AIRCRAFT REPAIR MANAGEMENT 5 Credits

Aircraft overhaul. Hand- and power-operated cutting tools. Aluminum and aluminum alloys and their fabrication. Heat treating, cold work, riveting. Planning and layout of aircraft inspection procedures of an aircraft overhaul shop. Preparation of thesis on quality control pertaining to aircraft. Preparation of thesis on shop procedures pertaining to aircraft.

MM 218—AIRCRAFT ASSEMBLY MANAGEMENT 5 Credits

Weight and balance of aircraft. Inspection procedures. Theory and design of propellers. Supervision of aircraft assembly. Research and practicum on 100-hour inspections. Review of aircraft maintenance management.

DEPARTMENT OF MANAGEMENT SCIENCE

MS 210—ACCOUNTING I 3 Credits

An introduction to accounting: double entry, income statement, balance sheet, interpretation of accounts; partnerships and corporations. 2 lectures and 2 hours of laboratory per week. Prerequisite: EC 100.

MS 211—BUSINESS LAW 3 Credits

A survey of the legal aspects of business transactions. Contracts, agency, bailments, negotiable instruments. Prerequisite: EC 100.

MS 301—PRINCIPLES OF MANAGEMENT 3 Credits

The fundamental functions of management: Planning, Organization, Staffing, Directing and Controlling are studied. Principles governing the proper discharge of these functions are developed. Prerequisites: MA 100, EC 101, and (except for Aeronautical Science) SS 205, MS 310, MS 312.

MS 309—DATA PROCESSING SYSTEMS 3 Credits

Fundamentals of data processing systems; application of data processing systems to business management; programming and coding digital computers; preparation and documentation of programs for business systems. Prerequisites: MS 210, MA 100,

MS 310—MANAGEMENT ACCOUNTING 3 Credits

Discussion of budgetary control, non-manufacturing costs, uniform cost accounting systems: analysis and control through cost accounting; other managerial reports. 2 lectures and 2 hours of laboratory per week. Prerequisite: MS 210.

MS 311—MARKETING 3 Credits

Marketing theory; marketing management; Sales management; market research. Public and customer relations; advertising; distribution. Government agencies as customers. Prerequisites: EC 301, MS 301.

MS 312—BUSINESS STATISTICS 3 Credits

Tabulation and presentation of business data; measures of central tendency and dispersion; elementary probability and the normal curve of error; reliability of the arithmetic mean. Prerequisite: MA 100, EC 100.

MS 313—PERSONNEL MANAGEMENT 3 Credits

An introduction to the methods and viewpoints of modern personnel administration. Case studies are selected to develop logical thinking in actual situations. Prerequisite: MS 301.

MS 320—SMALL BUSINESS MANAGEMENT 3 Credits

An introduction to the management of a small business; financing, site

location, marketing, records, advertising, personnel, government agencies, etc. Prerequisites: MS 401, MS 420.

MS 330—TRAFFIC MANAGEMENT 3 Credits

An intensive study of effective traffic management to show how it continuously serves as an indispensable element in the successful and efficient operation of a business enterprise. Oriented to the total approach and all modes of transportation. Considered in its relationship to the areas of warehousing, inventory control, material handling, and packaging. Managerial transportation responsibilities and topics will receive major treatment. Prerequisite: EC 301.

MS 401—MANAGEMENT PLANNING AND CONTROL 3 Credits

The requirements for short term and long range planning are investigated. New product planning is discussed. The importance of the control functions will be emphasized. Prerequisites: MS 311, MS 313, MS 410.

MS 410—FINANCE 3 Credits

The finance function, financial analysis and control, financial planning, short-term and intermediate term financing, long-term financing and financial strategies. Prerequisites: MA 100, MS 301, MS 310, MS 312.

MS 412—MANAGEMENT INFORMATION SYSTEMS. 3 Credits

Current techniques for Management Data Acquisition and Presentation are investigated. Included are other operations analysis tools. Electronic Data Processing Systems and Programs will be reviewed. Prerequisites: MS 309, MS 312, MS 420.

MS 413—PSYCHOLOGY OF MANAGEMENT 3 Credits

A basic course about human problems within the supervisory and management ranks. An introduction to individuals, pairs, and different-sized groups in organizations. Prerequisites: SS 205 and MS 313.

MS 420—INDUSTRIAL MANAGEMENT 3 Credits

An intensive study of management functions and organizations peculiar to industrial organizations. The interfaces and responsibilities of Project, Functional, and Administrative functions will be investigated. Particular attention will be paid to Industrial Engineering, Quality Assurance, and Manufacturing Management functions. Prerequisites: MS 311, MS 313, MS 410.

MS 430—APPLICATIONS OF MANAGEMENT SCIENCE 3 Credits

Case problems in determining business policy, instituting policy and appraising the results. The viewpoint is that of top and middle management. Prerequisites: MS 401, MS 413, MS 420.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

(Stetson University)

MY 101 & 102—BASIC MILITARY SCIENCE 4 Credits

MY 301 & 302—ADVANCED MILITARY SCIENCE 4 Credits
Prerequisite: Admission by selection and completion of Basic Course or active military service.

MY 401 & 402—ADVANCED MILITARY SCIENCE 4 Credits
Prerequisite: MY 302.

DEPARTMENT OF PHYSICAL EDUCATION

PE 101, 102, 201, and 202 0 Credits
Orientation in health and physical education activities. An attempt to foster physical fitness and an appreciation for physical activity. Required of all candidates for academic degrees. Meets two hours per week.

DEPARTMENT OF PHYSICAL SCIENCES

PS 001—PREPARATORY PHYSICAL SCIENCE 0 Credits
Review of basic physical science principles and concepts including physics, chemistry, earth sciences and astronomy. The course will emphasize effective study techniques in their application to various readings in these sciences.

PS 101—PHYSICAL SCIENCE I 3 Credits
A study of the scientific method and its discoveries. Applications of science to problems of astronomy, chemistry and physics.

PS 102—PHYSICAL SCIENCE II 3 Credits
Application of the scientific method to problems in physics, geology, meteorology and cosmology.

PS 105—CHEMISTRY I WITH LABORATORY 4 Credits
Fundamental principles of chemistry, basic atomic theory, valence, the chemical bond, oxidation number, symbols, formulas, equations and nomenclature. Chemical calculations, rates of reaction. Acids, bases and salts. Oxygen and hydrogen. The periodic system. Conservation of mass and energy.

PS 106—CHEMISTRY II WITH LABORATORY 4 Credits

Equilibrium and kinetics. Metals and non-metals. The halogens, sulfur, nitrogen, and their compounds. Iron, copper and aluminum, nuclear chemistry. Prerequisite: PS 105.

PS 201—PHYSICS I, MECHANICS AND HEAT WITH LABORATORY 5 Credits

Vector and scalar quantities. Newton's laws of motion and gravitation. Friction. Work. Energy. Power. Torque and rotational motion. Momentum. Curvilinear Motion. Elastic properties of matter. Fluids at rest and in motion. Properties of gases. Heat. 4 lectures per week and one 3-hour laboratory per week. Corequisite: PS 105.

PS 202—PHYSICS II, SOUND, ELECTRICITY AND LIGHT WITH LABORATORY 5 Credits

Wave motion, sound waves, acoustics. Fundamental laws of electricity and magnetism. Electrostatic and electromagnetic field theory. Induced electromagnetic forces. Power. Capacitance. Electrical instruments. Nature of light, index of refraction, refraction by lenses, reflection from mirrors, diffraction, and interference. 3 lectures per week and one 3-hour laboratory per week. Prerequisite: PS 201.

PS 303—MODERN PHYSICS 3 Credits

A survey course in modern concepts in physics. The nucleus and atomic structure. Fundamentals of wave mechanics. Basic relativity. Mossbauer effect. Parity and fundamental particles. High energy physics, cryogenics and superconductivity. Fundamentals of electronics. Microwave Optics. Stimulated emmission, lasers.

PS 307—APPLIED PHYSICAL CHEMISTRY 3 Credits

Chemical equilibria, kinetics, phase rule, chemical thermodynamics, kinetic theory of gases, thermochemistry, high temperature gas reactions, photochemistry, basic statistical mechanics.

PS 450—SPECIAL TOPICS 3 Credits

Topics within the fields of the physical sciences impinging on aeronautical engineering development or practices and which are of current or anticipated interest will be discussed on a seminar basis.

DEPARTMENTS OF AIRFRAME, POWERPLANTS, SHOP SCIENCE AND SYSTEMS

SL 011—BASIC AIRCRAFT SCIENCE

Basic training in the responsibility of a mechanic. Reading and understanding Federal Air Regulation. Review of high school mathematics, physics and drafting for the aviation mechanic. Introduction to aircraft, its major components, aircraft terms and Theory of Flight; woodwork, dope and fabric, requirements relative to quality of material and method of repairs; gas welding.

SL 012—BASIC POWERPLANT SCIENCE

Theory of engines and principles of operation; four-stroke cycle principle, cam rings, pistons, piston rings, cylinders, lubrication of Radial and opposed engines, float carburetors, pressure carburetors, direct injection fuel systems and Introduction to Propellers.

SL 013—AIRCRAFT SYSTEMS

Methods of repair or replacement of aircraft components; functions of pumps, pressure regulators, selector valves, actuators, relief valves, bypass valves, power brakes, steering devices and anti-skid controls, fuel systems and fuel management, cabin pressurization, heating, air conditioning, wing deicing, oxygen, anti-icing, fire detection, and flight instrument systems.

SL 014—ELECTRICAL LABORATORY

Fundamentals of Aircraft Electricity, both Direct and Alternating Current. Use of Ohm's Law and Impedance formulas. Theory of Capacitance and Induction as applied to Aircraft. Theory and maintenance of AC and DC motors, generators, alternators, and motor controls, Installation of Batteries, Airframe wiring, conduit, junction boxes, relays, circuit protectors, switches, radios and associated components in accordance with current FAA regulations, trouble shooting, aircraft electrical components and associated systems.

SL 015—JET PROPULSION LABORATORY

Theory of jet propulsion, principles of jet engine operation, the study of thrust, how it is affected and humidity. Each student is trained in disassembly, inspection, reassembly, run-up, test, and trouble-shooting of "live" jet engines. The type of engines studied are turbojet, turbofan, and turboprop. All systems related to jet engines are also studied. This 225 hours of jet training may be taken separately if desired.

SL 016—ENGINE AND ACCESSORY OVERHAUL

The complete disassembly and overhaul of engines and accessories, including applicable repair and inspection procedure. Powerplant opera-

tion, trouble shooting and test-run-in procedures. The use of technical publications and details of record processes.

SL 017—AIRCRAFT STRUCTURES

Training and knowledge needed to overhaul and maintain modern aircraft; basic skills in the use of hand and power operated metal cutting tools; aluminum and aluminum alloys and their fabrication; heat treating, cold work and riveting; repair and overhaul of live aircraft; new aircraft structures and manufacturing techniques.

SL 018—WEIGHT AND BALANCE PROPELLERS AND COURSE REVIEW

Weight and balance; inspection procedures; theory, design and function of propellers; final school examinations; placement interview; final preparation for Federal Aviation Administration written and practical examinations.

DEPARTMENT OF SOCIAL SCIENCES

SS 001—PREPARATORY SOCIAL SCIENCE 0 Credits

Considerable sampling of several social science subject areas to provide terminology, concepts, trends and an application of the social sciences to their chosen area of work.

SS 101—WORLD HISTORY 3 Credits

Designed primarily as a survey of the development and evolution of Western civilization from 1660 to the present. Emphasis is placed on contemporary civilization and culture.

SS 201—AMERICAN HISTORY 3 Credits

(1865 to the present). Reconstruction; the age of big business; the U. S. as a world power; World Wars I and II. The great depression and its aftermath. Studied in an interpretative survey.

SS 203—INTRODUCTION TO SOCIOLOGY 3 Credits

Integrated survey of the fundamental concepts of culture, forms of collective behavior, community and social organization, social interaction, and social change. The social effects of aviation and the impact of science on the social order living in an air-age will also be investigated.

SS 205—INTRODUCTION TO PSYCHOLOGY 3 Credits

Designed to help the student become aware of the many factors influencing human behavior and social interaction, and to better understand the context of emotional disturbances.

SS 206—PERSONALITY DEVELOPMENT 3 Credits

A course to better acquaint the individual with the environmental factors that affect personality development, emotional stability, and interpersonal relationship in our society. Through a better understanding of these factors, the individual will have discovered new modes of adjustment, both in his own life, and in his family and occupational setting.

SS 301—AMERICAN NATIONAL GOVERNMENT 3 Credits

Basic issues of American democracy, constitutional principles and the executive, legislative, and judicial branches of government.

SS 406—CONTEMPORARY LATIN AMERICA 3 Credits

A survey of the common denominators of Latin American History with detailed application of these elements to the evolution of contemporary Latin America.

SS 407—CURRENT HISTORY 3 Credits

A course in selected Political-Social-Economic issues of national and international importance. Extensive use of journals, magazines, and newspapers to supplement lectures and discussions.

SS 408—AMERICAN FOREIGN POLICY 3 Credits

A survey of the origins of the basic elements of American Foreign Policy. A summary review of the major issues in American Diplomatic History since 1860.

NOTES

"THE UNIVERSITY OF THE AIR"

Embry Riddle

AERONAUTICAL INSTITUTE

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Prices, schedules and conditions listed in this Interim Bulletin are subject to change without notice.

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