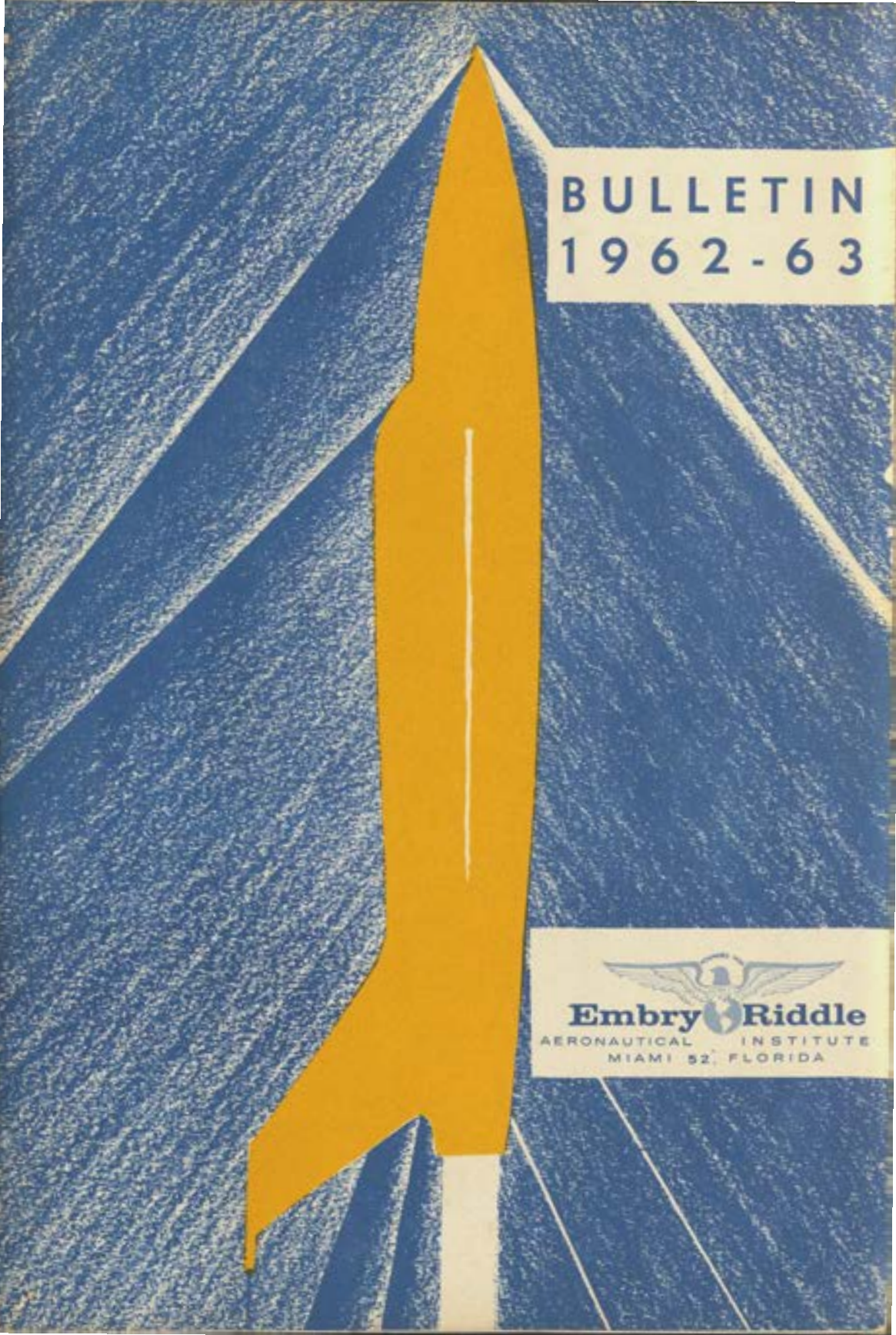
BULLETIN
1962-63
Embry Riddle
AERONAUTICAL INSTITUTE
MIAMI 52, FLORIDA

CONTENTS

SCHOOL CALENDAR

College of Engineering
Technical Institute

1962 Fall Semester	August 27, 1962
1963 Midwinter Semester	January 7, 1963
1963 Spring Semester	April 29, 1963
1963 Fall Semester	September 3, 1963
1964 Midwinter Semester	January 6, 1964
1964 Spring Semester	April 27, 1964
1964 Fall Semester	August 31, 1964

Flight School

1962 Terms	August 13, 1962
	October 8, 1962
1963 Terms	January 7, 1963
	March 4, 1963
	April 29, 1963
	July 8, 1963
	September 3, 1963
	October 28, 1963
1964 Terms	January 6, 1964
	March 2, 1964
	April 27, 1964
	July 6, 1964
	August 31, 1964
	October 26, 1964

BOARD OF TRUSTEES

Isabel McKay, Chairman ..... President
Embry Riddle Company

Henry W. Baird ..... Major General, U. S. Army, Retired

Jack Holden Beckwith ..... Chief of Oral Surgery
Mercy Hospital

Charles R. Graham ..... President
Graham Development Corporation

M. R. Harrison, Jr. ..... President
M. R. Harrison Construction Corporation

Hobert B. McKay ..... Formerly Vice President and Director
Miami Transit and Miami Beach Railway

John G. McKay, Jr. ..... Partner
Dixon, DeJarnette, Bradford, Williams, McKay & Kimbrell

Grover A. J. Noetzel ..... University of Miami

Harvey F. Pierce ..... Secretary-Treasurer
Maurice H. Connell & Associates, Inc.

James F. Pinkney ..... Chief Counsel-Public Affairs
American Trucking Association

Earl T. Van Sciver ..... Executive Vice President
First Research Corporation

ADMINISTRATION

G. Ross Henninger, B.S., P.E. ..... President

Lemuel D. Carlton, B.B.A. ..... Vice President and Dean of Instruction

Lois Steinhofer ..... Secretary and Treasurer

George E. McAuley, B.B.A. ..... Dean of Administration

Clarence W. Smith, B.S. ..... Director of Admissions and Records

Carmen Keene ..... Associate Registrar

Robert M. Claflin, B.S., P.E. ..... Dean of Engineering

Donald L. Burnside ..... Director of Flight School

FACULTY
COLLEGE OF ENGINEERING AND TECHNICAL INSTITUTE

Claflin, Robert M. ..... Dean of Engineering
B.S. in Mechanical Engineering, University of Michigan, 1936; P.E.

Bauer, Julius M., Jr. ..... Aerodynamics
B.S. in Aeronautical Engineering, Embry Riddle Aeronautical Institute, 1961

Biondo, Joseph W. ..... Chairman, Mechanics Department
A.S. in Aeronautical Engineering Technology, Embry Riddle Aeronautical Institute, 1959
A.S. in Aeronautical Maintenance Engineering Technology, Embry Riddle Aeronautical Institute, 1961

Breese, Edward Y. ..... Chairman, Humanities Department
B.A. in History, Princeton University, 1934

Langley, Thomas W. ..... Science and Mathematics
A.S. in Aeronautical Engineering Technology, Embry Riddle Aeronautical Institute, 1961

Lowery, Reginald ..... Aeronautical Design
B.S. in Aeronautical Engineering, Virginia Polytechnic Institute, 1952

McCarthy, Olive ..... Chairman, Mathematics Department
B.A. in Mathematics, Carleton College, 1917

Secada, Albert L. ..... Aerodynamics
B.S. in Aeronautical Engineering, New York University, 1946

Seifert, John P. ..... Humanities
B.S., U. S. Naval Academy, 1939

Traut, William A. ..... Thermodynamics
B.S. in Mechanical Engineering, Ilmenau Technical College, 1923

White, Jack J. ..... Chairman, Science Department
B.S. in Mathematics, University of Miami, 1949
B.A. in Physics, University of Miami, 1952

Zahn, Paul D. ..... Science and Mathematics
B.S. in Mathematics-American History, Columbia University, 1938

FACULTY
SHOP LABORATORY DEPARTMENT

Roberts, Homer C. ..... *Chairman*
F.A.A. Certificate No. 99588
F.A.A. Designated Aircraft Maintenance Inspector No. 1461
F.A.A. Designated Mechanic Examiner No. 2311

Adkins, C. R. ..... Weight and Balance, and Inspection Procedures
F.A.A. Certificate No. 1327660
F.A.A. Designated Mechanic Examiner No. 2407

Alsdorf, Chester W. ..... Advanced Airframes
F.A.A. Certificate No. 294707
F.A.A. Designated Aircraft Maintenance Inspector No. 294707
F.A.A. Designated Mechanic Examiner No. 2399

Blake, Thomas U. ..... Advanced Airframes
F.A.A. Certificate No. 353464

Bolton, Willard J. ..... Advanced Powerplants
F.A.A. Certificate No. 532411

Clouse, Claren M. ..... Basic Powerplants
F.A.A. Certified

Curtis, Stanley J. ..... Basic Airframes
F.A.A. Certificate No. 1377830

Davidson, Leonard ..... Advanced Powerplants
F.A.A. Certificate No. 1247741
F.A.A. Designated Mechanic Examiner No. 2310

Eaken, Ralph L. ..... Hydraulic and Electrical Systems
F.A.A. Certificate No. 1166105

Johnson, Alfred B. ..... Hydraulic and Electrical Systems
F.A.A. Certificate No. 11712
F.A.A. Designated Mechanic Examiner No. 132

Kallaher, Joseph F. ..... Basic Powerplants
F.A.A. Certificate No. 1263790

Lehmann, Karl ..... Sheet Metal and Welding
F.A.A. Certificate No. M-12079
F.A.A. Designated Mechanic Examiner No. 2177

Smith, Joseph H. ..... Propellers
F.A.A. Certificate No. 1360306

Titus, Chandler P. ..... Advanced Powerplants
F.A.A. Certificate No. 1277549

Verigan, Owen C. ..... Basic Airframes
F.A.A. Certificate No. 1105060

Warwick, John J. ..... Carburetors and Fuel Systems
F.A.A. Certificate No. 1334679

FACULTY

FLIGHT SCHOOL

Burnside, Donald L. ..... Director
ATR-MEL No. 1048794

Pilot Instruction

Whiteley, Donald E. ..... Chief Pilot
ATR-MEL No. 1298673

Byerly, Edward N. ..... Commercial and Instrument
Commercial SEL No. 1416767

Grindrod, George M. ..... Multi-Engine and Instrument
Commercial MEL No. 1469615

Malone, Albert R. ..... Multi-Engine and Instrument
Commercial MEL No. 257770

Parker, Richard C. ..... Commercial
Commercial SEL No. 1474854

Tacker, Agee C. ..... Commercial
Commercial SEL No. 1258276

Tenner, William E. ..... Commercial and Instrument
Commercial SEL No. 1429133

Airmanship

Nesmith, George A. ..... Chairman
F.A.A. Certificate No. 1367920
Flight Navigator No. 1370770

Aument, John G. ..... Link and Airmanship
F.A.A. Certificate No. 1379026

Bocock, Pauline ..... Link and Airmanship
F.A.A. Certificate No. 1333436

Brown, Jeannette M. ..... Link
F.A.A. Certificate No. 1274855

Campbell, William R., Jr. ..... Link and Airmanship
F.A.A. Certificate No. 1442852

GENERAL INFORMATION

Embry Riddle Aeronautical Institute holds a charter from the State of Florida as a non-profit institution of higher education. Its policies are established by the Board of Trustees. The school is an independent co-educational institution, depending primarily upon tuition to cover its operational costs.

As established in its Charter: "The basic objective of this institution shall be to provide competent educational programs at the collegiate level through which qualified students may achieve a maximum development of their individual talents as preparation and inspiration for productive and rewarding careers in private or public service; and in furtherance thereof to establish and carry on a non-profit educational institution offering programs for a sound engineering, technical, aeronautical, astronautical, and general education; to provide for the delivery and holding of classes, lectures, conferences, public meetings, and exhibitions, and to carry on such other activities, including the conducting of research, which are calculated directly or indirectly to advance the objectives of the educational programs of the institution; to gather, receive, and disseminate such information as may seem helpful in the furtherance of the objectives of the institution; and to confer appropriate Baccalaureate and Associate degrees and diplomas or other certificates of accomplishment or merit."

Embry Riddle Aeronautical Institute is a member of the National Council of Technical Schools and an affiliate institutional member of the American Society for Engineering Education, and is recognized by the United States Justice Department to admit foreign students. The school is approved by the Florida State Approving Agency for Private Schools. Embry Riddle Aeronautical Institute is listed as an institution of higher education in Part 3 of the Education Directory published by the U. S. Department of Health, Education, and Welfare.

The Aeronautical Engineering Technology Program is accredited by the Engineers' Council for Professional Development. This Council is the national accrediting body for engineering education, representing the following constituent members:

American Society of Civil Engineers

American Institute of Mining and Metallurgical and Petroleum Engineers

American Society of Mechanical Engineers

American Institute of Electrical Engineers

American Society for Engineering Education

American Institute of Chemical Engineers

The Engineering Institute of Canada

Institute of Aerospace Sciences

The Institute of Radio Engineers

National Council of State Boards of Engineering Examiners

Embry Riddle Aeronautical Institute operates three divisions: the College of Engineering, the Technical Institute, and the Flight School.

HISTORY

Embry Riddle Aeronautical Institute, a non-profit educational institution, on September 1, 1961 took over the Embry Riddle International School of Aviation which had originated as a flying school at Lunken Airport in Cincinnati, Ohio, in 1926. The school has participated widely in both the national and the international fields of aeronautical education.

During the grave crisis prior to World War II, when the United States Army was in critical need of expert flight and maintenance personnel, Embry Riddle was called upon to assist the military establishment in developing a program to successfully fulfill this need. As a result, the school established and operated four large Army flight schools in two cities, while a large Army mechanics training operation with a flow of over two thousand trainees was conducted on the school premises in Miami, Florida.

Over the years, Embry Riddle has progressively broadened its educational programs into the associated fields of engineering and engineering technology. It offers Associate Degree curricula in Engineering Technology and Baccalaureate Degree curricula in Engineering, as well as flight and air navigation programs.

ADMISSION

Freshman Students

Embry Riddle Aeronautical Institute will consider for admission graduates of accredited high schools, or of other accredited secondary schools, who have a satisfactory high school record. Applicants who have been awarded high school equivalency diplomas also will be considered for admission. Equivalency applications must be supported by a photo copy of the equivalency diploma and a transcript of any formal high school work completed.

Transfer Students

Students who have satisfactorily completed some work at accredited colleges, universities, or technical institutes may be admitted with advanced standing provided they have maintained grades averaging C or better and are in good standing at the last institution attended.

Transfer students who are enrolled in degree programs must fulfill all degree requirements and must complete no less than thirty semester hours in residence.

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 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. Before a decision as to admission can be reached, Embry Riddle must receive the results of such examination directly from the Consular Office.

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 I-20A. This also is an important factor in determining the acceptability of an applicant.

REGISTRATION

Applicants who have been officially accepted will be promptly notified, and also will receive further notice approximately thirty days prior to registration date.

All students are required to report for registration on Monday, Tuesday, or Wednesday of the week immediately preceding the start of the semester.

Placement Tests

Because of differences in high schools, entering students will possess varying degrees of knowledge. For this reason, all entering students will be required to take placement tests. The results of these tests will not be used as a basis for admission or rejection, but for determination of proper academic placement level. When the scores in these placement tests indicate a need for a better educational foundation, students will be required to complete certain orientation subjects at the Institute.

ACADEMIC REGULATIONS

Schedules

The school operates on a tri-semester basis, and classes are in session five days per week, Monday through Friday.

Vacations

The school is on vacation two weeks during the summer and two weeks during the Christmas Holidays.

Holidays

Memorial Day	Labor Day
Independence Day	Thanksgiving Day (Two days)

Absenteeism

Regular and punctual attendance at all class and laboratory sessions is essential to satisfactory completion of course work.

Any student absent from a class for any reason will not be readmitted to that class until he obtains a re-entry permit from the Engineering Secretary and turns in the completed form to each instructor of the classes missed.

If the accumulated number of absences for any one subject in a semester exceeds the scheduled number of semester hours of credit for that subject, the student is subject to being dropped from that course.

Student Policies

The file of policies governing student activities is maintained in the Engineering Library. New policies are posted on the bulletin board for a period of one week. It is the responsibility of students to maintain conduct in accordance with these policies.

Academic Probation

Probation measures are adjusted by the Scholastic Committee and may be either academic or disciplinary. Academic probation is imposed when the student earns a quality point average below 1.5 for any regular semester's work, or when in the judgment of the Committee or the Dean he is not maintaining satisfactory progress toward graduation. The probation may be removed by the student achieving a 2.0 average in the next semester's work and indicating to the satisfaction of the Dean of Engineering that he will make up the deficiency in quality points. It is usually advised that the student, while under probation, reduce his academic load to approximately 15 semester hours.

Students who fail to remove this probationary status are subject to dismissal from the course on recommendation of the Scholastic Committee.

Grading Procedure

Grade	Relative Standing	Honor Points per Semester Hour
A	Superior	4
B	Above Average	3
C	Average	2
D	Below Average	1
S	Surveying the course with credit	0
F	Failure	0
WF	Withdrawal while failing during the last three-fourths of the semester	0
WP	Withdrawal while passing during the last three-fourths of the semester	0
W	Withdrawal during the first fourth of the semester	0
U	Auditing the course without credit	0
G	Passing but incomplete work	0

An incomplete grade is given when a student is unable to complete his work for reasons over which he has no control. An incomplete grade must be removed within the first six weeks of the next semester he is in attendance. The final grade will be reduced one letter grade as a penalty for not completing the work in the normal length of time. If the student fails to meet this requirement, the G automatically becomes an F.

An F on a student's record is permanent. Even though the student repeats the course and attains a new grade, the F will remain on his record and transcript for the semester in which the F was attained.

A student may withdraw from a course during the first fourth of the semester and receive a grade of W. If the student withdraws after this period of time, he will receive a WF (Withdrawal while failing) or a WP (Withdrawal while passing). The WF enters his records as permanent F.

Semester Hour Credit

All credits are recorded in terms of semester hours. A semester hour of credit is given for one 50-minute lecture per week throughout the 16-week semester. In counting credits earned in the laboratory, a semester hour is considered to be two laboratory hours requiring outside preparation or three laboratory hours requiring little or no outside preparation. No grades or credits are offered to students auditing a course.

Honor Point Average

The honor point average is maintained to give a cumulative numerical equivalent of the grades received. In figuring the honor point average, honor points are given on the basis of four for each semester hour of A grade, three for each hour of B grade, two for each hour of C grade, one for each hour of D grade, and zero for each hour of F or WF grade. The symbols WP, W, and U do not count as credits attempted. The symbol S means the credits for the course will be counted toward graduation, but in figuring the honor point average, it is treated as a T (Transfer credit). No honor point value is assigned to either the S or the T, and the credits are not added to the total of credits attempted in figuring the honor point average.

The honor point average is figured by dividing the total number of honor points earned by the total of credits attempted.

Scholastic Committee

The Scholastic Committee reviews the progress of each student. At the end of the semester, the Scholastic Committee reviews the records of those students having difficulties and recommends appropriate action to the Dean. The Committee reviews the student's progress on the following basis:

1. The honor point average at the end of each term must be sufficiently high to enable the student to obtain a 2.0 average before he enters the final semester course.

2. If the Committee feels that the student is not progressing satisfactorily toward the required value at the end of the semester, it may recommend that the student be required to repeat courses to raise his honor point average.

3. If, at any time, the student apparently cannot maintain a sufficiently high scholastic average, the Committee may recommend that the student discontinue his studies in the course.

4. Any student receiving an F in a subject will be required to repeat that subject. He may, on the recommendation of the Committee, be required to repeat other subjects.

Withdrawal

No withdrawal from Embry Riddle Aeronautical Institute is official until the student has consulted with the Dean or the Director, the Registrar, and the Accounting Department. Any claim for refund must be made in writing. Students attending school under the "G. I. Bill of Rights" must also complete the appropriate V. A. forms prior to withdrawal.

Graduation Requirements

Students must complete 142 semester hours to fulfill the requirements for a Bachelor of Science Degree in Aeronautical Engineering, 157 semester hours to fulfill the requirements for a Bachelor of Science Degree in Aircraft Maintenance Engineering, and 153 semester hours to fulfill the requirements for a Bachelor of Science Degree in Executive Piloting.

A total of 106 semester hours are required for an Associate of Science Degree in Aeronautical Engineering Technology, and 122 semester hours for an Associate of Science Degree in Aircraft Maintenance Engineering Technology.

A total of 65 semester hours are required for an Aeronautical Drafting Technology certificate.

The work of all students is under the supervision of the Dean of the College of Engineering and Technical Institute. Before a student may be graduated, his record is reviewed by the Scholastic Committee to determine successful completion of the course. To complete the course successfully, the student must attain a final average of 2.0.

Degrees and Certificates

Aeronautical Engineering ..... Bachelor of Science

Aircraft Maintenance Engineering ..... Bachelor of Science

Executive Pilot ..... Bachelor of Science

Aeronautical Engineering Technology ..... Associate of Science

Aircraft Maintenance Engineering Technology .. Associate of Science

Aeronautical Drafting Technology ..... Certificate

Business Pilot ..... Certificate

Commercial Pilot ..... Certificate

Private Pilot ..... Certificate

Instrument Pilot ..... Certificate

Multi-Engine Pilot ..... Certificate

FINANCES

Tuition*

College of Engineering and Technical Institute:

Full tuition, 12 to 18 semester hours ..... $350. per Semester

(Tuition for less than 12 semester hours or in excess of 18 semester hours is at the rate of $29. per semester hour.)

Flight School:

Business Pilot

First Semester	$1,407.50
Second Semester	1,338.00
Third Semester	1,575.00
Fourth Semester	2,260.00
Fifth Semester	500.00
Sixth Semester	500.00
Seventh Semester	500.00
Eighth Semester	500.00

Executive Pilot

First Semester	$1,257.50
Second Semester	1,060.50
Third Semester	1,025.00
Fourth Semester	877.50
Fifth Semester	985.00
Sixth Semester	1,370.00
Seventh Semester	350.00
Eighth Semester	350.00
Ninth Semester	350.00
Tenth Semester	350.00

Commercial Pilot

Course FC-11	$ 522.50
Course FC-12	578.00
Course FC-13	600.00
Course FC-14	548.00
Course 107, Basic Airmanship	105.00
Course 108, Advanced Airmanship	105.00

Instrument Pilot

Course IC-15	$ 415.00
Course 109, Airmanship-Instrument	105.00

Multi-Engine

Course ME-1	$ 525.00

Note: Tuition for Commercial Pilot, Instrument, and Multi-Engine Courses are based on F.A.A. minimum requirements.

**Curricula tuition and fees subject to change without notice.*

Fees

Application Fee ..... $ 10.00
Matriculation Fee 10.00

Dormitory Charges

Per Semester ..... $ 112.00

A deposit of $20. is required for a reservation. This deposit will be deducted from the dormitory rental. Deposit is refundable for cancellations received no later than 30 days prior to scheduled entry date.

Refund Policy

Students who have executed the required withdrawal forms will receive tuition refunds at the following rates, applicable to both tuition fees and dormitory charges.

Withdrawal up to and including the second week 80%
Withdrawal up to and including the third week 60%
Withdrawal up to and including the fourth week 40%
Withdrawal up to and including the fifth week 20%
After the fifth week, no refund will be made.

Students enrolled in partial and transfer flight courses are obligated to schedule a definite number of hours of flight instruction at a given rate, which is payable in advance. These enrollees are considered special students; and should it be necessary for them to withdraw, the refund policy covering the academic students will prevail.

There are no exceptions to these rules and regulations.

STUDENT SERVICES AND ACTIVITIES

Part-time Employment

Students may schedule part-time employment if in the opinion of the faculty such employment will not interfere with their studies. Students who desire such employment may register with the Student Counselor.

Placement

The Placement Department renders complete service toward satisfactory employment for all graduates. The school does not guarantee employment, but every effort is made to assist every graduate to secure employment.

Dormitories

Candidates for admission may request dormitory reservations in the space provided on the admission application. Two students are assigned to each room. Students must furnish a minimum of the necessary linens, which includes four sheets, two pillow cases, two blankets, and sufficient towels. Students may be permitted to have a radio, a clock, or other items that may add to their own personal convenience and comfort.

Off-Campus Housing

Embry Riddle does not maintain any apartments or quarters for married students. The Student Counselor has a listing of apartments and homes in the vicinity of the school, which will be made available to students. Most apartments and homes for rent in the area are furnished. 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.

Restaurant, Barber Shop, Laundries

There is a modern restaurant located in the Aviation Building which is open five days per week. In addition, there are numerous restaurants and cafeterias in the immediate vicinity of the school.

A modern three-chair barber shop is located in the main building.

The school operates no laundry service. However, there are self-service launderettes, as well as commercial laundry and dry cleaning firms, within easy walking distances of the school.

Student Mail

All personal mail should be addressed as follows:

Name
P. O. Box 568, Biscayne Annex
Miami 52, Florida

The student may continue to use this address while attending school, regardless of whether or not he resides in the dormitories.

Baggage and Express

All baggage and express packages must be sent prepaid. These items should be addressed as follows:

Name
c/o Embry Riddle Student Counselor
Room 139, Aviation Building
3240 N. W. 27 Avenue
Miami, Florida

Baggage and express packages sent in this way will be held for the student.

Personal Finances

Students are urged to open local bank accounts for their personal convenience. In addition, students may make arrangements for restricted personal drawing accounts with the school.

Educational Loans

The Investment-In-Education Plan

The Investment-In-Education Plan of Funds for Education, Inc., meets the requirements of Embry Riddle Aeronautical Institute.

Under this Plan, advances up to $1250. per semester will be made for educational expenses which may include such items as tuition, fees, room and board, books, travel, etc.

Families living anywhere may apply and advances will be made to Embry Riddle Aeronautical Institute or directly to the parent at the time school bills are due.

Contracts covering one, two, three, and four school years are available. The maximum amount advanced under any one contract is $10,000. The minimum advanced at any one time is $350.

Monthly repayment schedules can be arranged for periods ranging from four months to six years, depending on the school period covered.

A contract may be cancelled at any time without penalty.

Life and health insurance is included in all contracts.

Embry Riddle Aeronautical Institute has no financial interest in, and derives no benefits from, the Investment-In-Education Plan. Mention of its availability is included in this bulletin because of increasing interest in budget-payment programs.

Parents who wish to use the Plan, or who would like additional information about it, should write directly to the Funds for Education, Inc., 319 Lincoln Street, Manchester, New Hampshire.

The Insured Tuition Payment Plan

The Insured Tuition Payment Plan divides the entire two, four, six, eight or more years of educational expense into monthly installments, which begin a few months before the first tuition bill is due and end a few months before the student graduates. Because this is a parent prepayment plan there is no interest charge. Low-cost term insurance is included so that in the event of the death or disability of the parent who pays the expenses, the student's educational expenses will be completed by the insurance.

The earlier a plan is started for a student, the smaller the monthly installments and the longer the term of the insurance protection.

Embry Riddle Aeronautical Institute has no financial interest in, and derives no benefits from, the Insured Tuition Payment Plan.

Information about this Plan is sent to the parent of each incoming student as soon as the student has been accepted for admission and has enrolled. For information in advance of this date, write to: Richard C. Knight Insurance Agency, Inc., Insured Tuition Payment Plan, 38 Newbury Street, Boston 16, Massachusetts.

Fraternities

Fraternities create a background for professional and social life at Embry Riddle Aeronautical Institute. They encourage scholarship and leadership and assist their members to attain a healthy social outlook.

The Pi Chapter of Sigma Phi Delta Fraternity is located on the Embry Riddle campus and is a member of the International Professional Fraternity of Engineers. Sigma Phi Delta is an engineering fraternity, and only engineering students are eligible for membership.

Alpha Eta Rho International Aviation Fraternity was founded on April 10, 1929, at the University of Southern California, and the Epsilon Rho Chapter is located on the Embry Riddle campus. Since its founding, the Alpha Eta Rho Fraternity has been dedicated to the safety and promotion of aviation throughout the world. Presently, fraternity chapters range from Miami, Florida, to Seoul, Korea.

COLLEGE OF ENGINEERING

Embry Riddle Aeronautical Institute is located in the famous Aviation Building 3240 N.W. 27th Ave., Miami, Florida

CURRICULA
COLLEGE OF ENGINEERING

ORIENTATION

This program is a full-time program extending through a full semester. It is designed to provide a basic working knowledge of mathematics and physical science to prepare the student for the analytical work encountered in the various courses of the Institute. Credits earned in Orientation do not apply to graduation requirements.

SUBJECT NO.	SUBJECT	LECTURE	LAB	CREDITS
W-1	Elementary Algebra	5	0	5
W-2	Plane Geometry	5	0	5
W-3	Physics	5	0	5
W-4	English	5	0	5
W-5	Trigonometry	5	0	5

AERONAUTICAL ENGINEERING
AIRCRAFT MAINTENANCE ENGINEERING

These programs are designed to provide the basic engineering knowledge which enables the graduate to advance rapidly in the specialized branches of Aeronautical Engineering and Aircraft Maintenance Engineering, and other related areas.

In preparation for such careers, engineering students must develop a working mastery of the basic sciences of mathematics, physics, areodynamics, stress analysis and structural design, aircraft design drafting, and the associated sciences of chemistry, electronics, and thermodynamics.

These engineering curricula are designed to give thorough preparation, analytically and experimentally, in the fundamentals and principles of aeronautical and aircraft maintenance engineering.

Of equal importance to the student is the ability to write and speak English effectively; his ultimate level of achievement is likly to be determined as much by his understanding of people, his judgment, and his appreciation for the non-technical side of life as by his technical competence. To prepare the student along these lines, the humanities and social studies, therefore, form an important part of his program.

In the aeronautical laboratories the student becomes familiar with wind-tunnel testing techniques and the reduction and analysis of test data from the wind tunnel. Aerodynamics equations and methods are clarified by the experiments, increasing their value to the student in the development of aircraft. In other laboratories, the student becomes familiar with manufacturing methods with sheet metal; machining, and welding in the Shop

Laboratory; physical principles and laws in the Physics Laboratory; and the basic laws of chemistry in the Chemistry Laboratory.

The design and production of aircraft and missiles require considerable research. Many engineers are needed to design and develop each component of the aircraft or missile.

The engineer who has completed Embry Riddle's program in Aeronautical Engineering or Aircraft Maintenance Engineering is prepared to produce results immediately upon employment.

AERONAUTICAL ENGINEERING

Bachelor of Science Degree

8 Semesters (16 Week Semester) — 32 Months Full Time

SEMESTER	SUBJECT NO.	SUBJECT	LECTURE	LAB	CREDITS
First					
	EH-11	English Composition	2	0	2
	MA-11	College Algebra	4	0	4
	MA-13	Trigonometry and Analytics	5	0	5
	ME-10	Engineering Drawing I	0	6	2
	PH-11	Physics I	4	0	4
	PH-14	Physics I Laboratory	0	3	1
					18
Second					
	EH-12	Technical Writing	2	0	2
	MA-15	Differential Calculus	5	0	5
	ME-11	Engineering Drawing II	0	6	2
	ME-16	Statics	5	0	5
	PH-12	Physics II	3	0	3
	PH-15	Physics II Laboratory	0	3	1
					18
Third					
	EH-15	Psychology	2	0	2
	MA-16	Integral Calculus	4	0	4
	ME-12	Descriptive Geometry	0	6	2
	ME-17	Dynamics	5	0	5
	ME-22	Fluid Mechanics	3	0	3
	ME-24	General Shop Practice Laboratory	0	2	1
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FOURTH					
	AE-13	Aerodynamics I	5	0	5
	AE-18	Airframe Laboratory	0	2	1
	EH-14	Public Speaking	2	0	2
	EH-18	Economics I	2	0	2
	ME-15	Materials and Processes	3	0	3
	ME-18	Strength of Materials	5	0	5
					18
FIFTH					
	AE-14	Aerodynamics II	5	0	5
	AE-19	Wind Tunnel Laboratory	2	2	2
	AE-21	Aircraft Structures I	5	0	5
	AE-24	Principles of Aircraft Design	3	0	3
	AE-25	Aircraft Drafting	0	6	2
	AE-28	Aircraft Systems Laboratory	0	2	1
					18
SIXTH					
	AE-22	Aircraft Structures II	5	0	5
	AE-26	Aircraft Detail Design	0	6	3
	AE-27	Airplane Design	0	6	3
	AE-30	Aircraft Propulsion Systems Laboratory	0	2	1
	EH-16	Business English	2	0	2
	ME-20	Thermodynamics I	3	0	3
					17
SEVENTH					
	ME-23	Vibration Mechanics	3	0	3
	CH-11	Chemistry I	2	2	3
	EH-21	American History	3	0	3
	EH-19	Economics II	3	0	3
	MA-17	Differential Equations	3	0	3
	ME-21	Thermodynamics II	3	0	3
					18
EIGHTH					
	AE-17	Supersonic Aerodynamics	3	0	3
	CH-12	Chemistry II	2	2	3
	EH-22	World History	3	0	3
	EH-24	Philosophy	3	0	3
	EE-12	Fundamentals of Electric Circuitry	3	0	3
	AE-32	Jet Propulsion Systems	3	0	3
					18
		Total Credits for Graduation			142

AIRCRAFT MAINTENANCE ENGINEERING

Bachelor of Science Degree

10 Semesters (16 Week Semester) — 40 Months Full Time

SEMESTER	SUBJECT NO.	SUBJECT	LECTURE	LAB	CREDITS
First					
	ME-10	Engineering Drawing I	0	6	2
	MA-11	Algebra	4	0	4
	MA-14	Trigonometry and Analytics	5	0	5
	SL-11	Basic Airframes	0	15	5
					16
Second					
	ME-11	Engineering Drawing II	0	6	2
	PH-11	Physics I	4	0	4
	PH-14	Physics I Laboratory	0	3	1
	EH-11	English Composition	2	0	2
	SL-12	Sheet Metal and Welding	0	15	5
					14
Third					
	EH-12	Technical Report Writing	2	0	2
	MA-15	Differential Calculus	5	0	5
	ME-16	Statics	5	0	5
	SL-13	Basic Powerplants	0	15	5
					17
Fourth					
	PH-12	Physics II	3	0	3
	PH-15	Physics II Laboratory	0	3	1
	ME-12	Descriptive Geometry	0	6	2
	MA-16	Integral Calculus	4	0	4
	SL-14	Carburetors, Fuel Systems, and Propellers	0	15	5
					15
Fifth					
	EH-15	Psychology	2	0	2
	ME-17	Dynamics	5	0	5
	ME-22	Fluid Mechanics	3	0	3
	SL-15	Hydraulic and Electrical Systems	0	15	5
					15
Sixth					
	AE-13	Aerodynamics I	5	0	5
	ME-18	Strength of Materials	5	0	5
	SL-16	Advanced Powerplants	0	15	5
					15

SEVENTH					
	AE-25	Aircraft Drafting	0	6	2
	ME-15	Materials and Processes	3	0	3
	EH-16	Business English	2	0	2
	SL-17	Advanced Airframes	0	15	5
		Technical Electives	3	0	3
					15
EIGHTH					
	EH-18	Economics	2	0	2
	EH-14	Public Speaking	2	0	2
	CH-11	Chemistry I	2	2	3
	SL-18	Inspection, Weight and Balance, Review and Tests	0	15	5
		Technical Electives	4	0	4
					16
NINTH					
	CH-12	Chemistry II	2	2	3
	EH-22	World History	3	0	3
	EH-19	Economics II	3	0	3
		Technical Electives	8	0	8
					17
TENTH					
	EH-21	American History	3	0	3
	EH-24	Philosophy	3	0	3
	EE-12	Fundamentals of Electric Circuitry	3	0	3
		Technical Electives	8	0	8
					17
		Total Credits for Graduation			157

CURRICULA

EXECUTIVE PILOT

The Executive Pilot Program deals with the technical aspects rather than the business aspects of the air industry. The academic portion of this program is in Aeronautical Engineering, and the program includes six flight courses. The graduate of this program earns a Bachelor of Science Degree, and an Executive Pilot Certificate, with Commercial, Instrument, and Multi-Engine Ratings.

This program is offered exclusively at Embry Riddle Aeronautical Institute and has a distinct advantage in that the student who is graduated can become a professional aeronautical engineer or a professional pilot, or both. In addition, there is an advantage in the time required to complete. This program is equal to four full academic years. It includes ten semesters, which can be completed in three years and four months.

EXECUTIVE PILOT

Bachelor of Science Degree

10 Semesters (16 Week Semester) — 40 Months Full Time

SEMESTER	SUBJECT NO.	SUBJECT	LECTURE	LAB	CREDITS
First	EH-11	English Composition	2	0	2
	MA-11	Algebra	4	0	5
	MA-14	Trigonometry and Analytics	5	0	5
	107	Basic Airmanship	5	0	5
	101	70 Hours Flight 4 Hours Oral			
					17
Second	MA-15	Differential Calculus	5	0	5
	ME-10	Engineering Drawing I	0	6	2
	PH-11	Physics I	4	0	4
	PH-14	Physics I Laboratory	0	2	1
	108	Advanced Airmanship	5	0	5
	102	55 Hours Flight 2 Hours Oral			
					17
Third	EH-12	Technical Report Writing	2	0	2
	EH-21	American History	3	0	3
	MA-16	Integral Calculus	3	0	4
	ME-11	Engineering Drawing II	0	6	2
	ME-16	Statics	5	0	5
	103	45 Hours Flight			
					16
Fourth	EH-15	Psychology	2	0	2
	ME-12	Descriptive Geometry	0	6	2
	ME-17	Dynamics	5	0	5
	ME-24	General Shop Practice Laboratory	0	2	1
	PH-12	Physics II	3	0	3
	PH-15	Physics II Laboratory	0	2	1
	104	40 Hours Flight 4 Hours Oral			
					14
Fifth	AE-13	Aerodynamics I	5	0	5
	EH-14	Public Speaking	2	0	2
	ME-18	Strength of Materials	5	0	5
	ME-22	Fluid Mechanics	3	0	3
	105	40 Hours Flight 4 Hours Oral			
					15

SIXTH	AE-14	Aerodynamics II	5	0	5
	AE-18	Airframe Laboratory	0	2	1
	AE-19	Wind Tunnel Laboratory	2	2	2
	AE-21	Aircraft Structures I	5	0	5
	EH-18	Economics	2	0	2
	106	20 Hours Flight 4 Hours Oral			
					15
SEVENTH	AE-22	Aircraft Structures II	5	0	5
	AE-24	Principles of Aircraft Design	3	0	3
	AE-25	Aircraft Drafting	0	6	2
	AE-28	Aircraft Systems Laboratory	0	2	1
	ME-15	Materials and Processes	3	0	3
					14
EIGHTH	AE-26	Aircraft Detail Design	0	6	3
	AE-27	Airplane Design	0	6	3
	AE-30	Aircraft Propulsion Systems Laboratory	0	2	1
	EH-16	Business English	2	0	2
	EH-22	World History	3	0	3
	ME-20	Thermodynamics I	3	0	3
					15
NINTH	AE-17	Aerodynamics III (Supersonic)	3	0	3
	EH-19	Economics II	3	0	3
	CH-11	Chemistry I	2	2	3
	MA-17	Differential Equations	3	0	3
	ME-21	Thermodynamics II	3	0	3
					15
TENTH	AE-32	Jet Propulsion Systems	3	0	3
	CH-12	Chemistry II	2	2	3
	EE-12	Fundamentals of Electric Circuitry	3	0	3
	EH-24	Philosophy	3	0	3
	ME-23	Vibration Mechanics	3	0	3
					15
		Total Credits for Graduation			153

BUSINESS PILOT

COURSE IS OFFERED IN
CONJUNCTION WITH THE
UNIVERSITY OF MIAMI

CURRICULA

BUSINESS PILOT

The objective of the four-year Business Pilot Course is to provide sound education that will enable the graduate to qualify for employment in aviation administration or as a professional pilot. There are many attractive opportunities in the aviation industry for the graduate of this program. This course is offered in conjunction with the University of Miami.

The Business Pilot Program deals with the business aspects of the air industry. In the academic portion, there are two areas of related concentration: Aviation Business Management, and Aviation Technical Management. Students pursuing a major in aviation should consult with the aviation adviser at the beginning of their freshman year or at the time of entrance. The curriculum is arranged according to the needs of the individual student.

125 credits are required for graduation. A Bachelor of Business Administration Degree is awarded, and a Certificate in Business Piloting, with Commercial, Instrument, and Multi-Engine Ratings.

BUSINESS PILOT

Bachelor of Business Administration Degree

8 Semesters — 4 Full Years

SEMESTER	SUBJECT	CREDITS
First	HUMANITIES 101—Composition and Humanities	3
	SOCIAL SCIENCES 101—	
	Development of Western Civilization I	3
	NATURAL SCIENCES 101—Physical Sciences I	3
	ACCOUNTING 101—Fundamentals of Accounting	3
	MANAGEMENT 362—Air Navigation	3
	FLIGHT 363—74 Hours	1
		16
Second	HUMANITIES 102—Composition and Humanities	3
	SOCIAL SCIENCES 102—	
	Development of Western Civilization II	3
	NATURAL SCIENCES 102—Physical Sciences II	3
	ACCOUNTING 102—Fundamentals of Accounting	3
	MANAGEMENT 361—Aviation Meteorology	3
	FLIGHT 364—67 Hours	1
		16
Third	HUMANITIES 201—Composition and Humanities	3
	SOCIAL SCIENCES 201—	
	Man in Contemporary Society I	3
	NATURAL SCIENCES 105—Biological Sciences I	3
	MANAGEMENT 367—Technical Aspects of Aviation	3
	MANAGEMENT 201—Principles of Management	3
	FLIGHT 365—79 Hours	1
		16
Fourth	HUMANITIES 202—Composition and Humanities	3
	SOCIAL SCIENCES 202—	
	Man in Contemporary Society II	3
	NATURAL SCIENCES 106—Biological Sciences II	3
	MARKETING 200—Principles of Marketing	3
	MANAGEMENT 260—Principles of Transportation	3
	FLIGHT 366—68 Hours	1
	80 Hours Airmanship - Instrument	
		16

FIFTH	ECONOMICS 201—Economic Principles and Problems	3
	BUSINESS STATISTICS 221—Elementary Business Statistics	4
	BUSINESS LAW 212—Legal Environment of Business Fundamentals	3
	PSYCHOLOGY 201—General Principles of Psychology	3
	MANAGEMENT 360—Air Transportation	3
		16
SIXTH	ECONOMICS 202—Economic Principles and Problems	3
	MANAGEMENT 467—Federal Aviation Regulations	3
	BUSINESS ENGLISH 347—Business English	3
	PSYCHOLOGY 309—Personality and Its Development	3
	FINANCE 301—Money and Banking	3
		15
SEVENTH	GOVERNMENT 301—Government in the Modern World: Principles	3
	FINANCE 351—Business Finance	3
	ELECTIVE	3
	ELECTIVE	3
	ELECTIVE	3
		15
EIGHTH	GOVERNMENT 302—Government in the Modern World: Public Policy	3
	MANAGEMENT 368—Aviation Radar	3
	ELECTIVE	3
	ELECTIVE	3
	ELECTIVE	3
		15
	Total Credits for Graduation	125

TECHNICAL INSTITUTE

CURRICULA

TECHNICAL INSTITUTE

ORIENTATION

This program is a full-time program extending through a full semester. It is designed to provide a basic working knowledge of mathematics and science to prepare the student for the analytical work encountered in the various courses of the Institute. Credits earned in Orientation do not apply to graduation requirements.

SUBJECT NO.	SUBJECT	LECTURE	LAB	CREDITS
W-1	Elementary Algebra	5	0	5
W-2	Plane Geometry	5	0	5
W-3	Physics	5	0	5
W-4	English	5	0	5
W-5	Trigonometry	5	0	5

AERONAUTICAL ENGINEERING TECHNOLOGY

The graduate Engineering Technician is a vital part of the "engineering manpower team" of the rapidly expanding American industrial complex of the 1960's.

Embry Riddle's programs in engineering technologies provide collegiate education leading to the Associate of Science Degree. These programs present the essential substance of the physical sciences related to their respective areas of engineering enterprise. They stress the practical application of the basic concepts involved rather than their theoretical derivation. They are similar to the engineering programs, but are shorter and more technical in nature and content. To accomplish within the prescribed time a desirable depth of knowledge and competence in the selected occupational field, these programs are more intensive in nature and more specialized in scope than are the traditional engineering programs.

These Associate Degree programs are designed to prepare the graduate for immediate productive employment in various technical positions in engineering or related industrial enterprises. The engineering technician's responsibilities parallel those of the engineer. His knowledge in engineering design enables him to assume duties in all phases of the aircraft and missile industry. From the preliminary design groups, through flight test and final production, his talents are needed and utilized.

Future opportunities are expanding as rapidly as aviation itself—and an exciting career in the new Age of Space awaits those who are qualified.

AERONAUTICAL ENGINEERING TECHNOLOGY

Associate of Science Degree

6 Semesters (16 Week Semester) — 24 Months Full Time

SEMESTER	SUBJECT NO.	SUBJECT	LECTURE	LAB	CREDITS
FIRST					
	EH-11	English Composition	2	0	2
	MA-11	Algebra	4	0	4
	MA-14	Trigonometry and Analytics	5	0	5
	ME-10	Engineering Drawing I	0	6	2
	PH-11	Physics I	4	0	4
	PH-14	Physics I Laboratory	0	3	1
					18
SECOND					
	EH-12	Technical Report Writing	2	0	2
	MA-15	Differential Calculus	5	0	5
	ME-11	Engineering Drawing II	0	6	2
	ME-16	Statics	5	0	5
	PH-12	Physics II	3	0	3
	PH-15	Physics II Laboratory	0	3	1
					18
THIRD					
	EH-15	Psychology	2	0	2
	MA-16	Integral Calculus	4	0	4
	ME-12	Descriptive Geometry	0	6	2
	ME-17	Dynamics	5	0	5
	ME-22	Fluid Mechanics	3	0	3
	ME-24	General Shop Practice Laboratory	0	2	1
					17
FOURTH					
	AE-13	Aerodynamics I	5	0	5
	AE-18	Airframe Laboratory	0	2	1
	EH-14	Public Speaking	2	0	2
	EH-18	Economics	2	0	2
	ME-15	Materials and Processes	3	0	3
	ME-18	Strength of Materials	5	0	5
					18

FIFTH

AE-14	Aerodynamics II	5	0	5
AE-19	Wind Tunnel Laboratory	2	2	2
AE-21	Aircraft Structures I	5	0	5
AE-24	Principles of Aircraft Design	3	0	3
AE-25	Aircraft Drafting	0	6	2
AE-28	Aircraft Systems Laboratory	0	2	1
				18

SIXTH

AE-22	Aircraft Structures II	5	0	5
AE-26	Aircraft Detail Design	0	6	3
AE-27	Airplane Design	0	6	3
AE-30	Aircraft Propulsion Systems Laboratory	0	2	1
EH-16	Business English	2	0	2
ME-20	Thermodynamics I	3	0	3
				17
	Total Credits for Graduation			106

Shop Practice Laboratory in Technical Program

AIRCRAFT MAINTENANCE ENGINEERING TECHNOLOGY

This program is designed to meet the needs of the age of jet-propelled aircraft—a need for men proficient not only in aircraft and powerplant maintenance but also having an understanding of engineering design technology. This program also qualifies the student to take the F.A.A. Examination for the F.A.A. Certificate as Airframe and Powerplant Technician.

AIRCRAFT MAINTENANCE ENGINEERING TECHNOLOGY

Associate of Science Degree

8 Semesters (16 Week Semester) — 32 Months Full Time

SEMESTER	SUBJECT NO.	SUBJECT	LECTURE	LAB	CREDITS
First					
	ME-10	Engineering Drawing I	0	6	2
	MA-11	Algebra	4	0	4
	MA-14	Trigonometry and Analytics	5	0	5
	SL-11	Basic Airframes	0	15	5
					16
Second					
	ME-11	Engineering Drawing II	0	6	2
	PH-11	Physics I	4	0	4
	PH-14	Physics I Laboratory	0	3	1
	EH-11	English Composition	2	0	2
	SL-12	Sheet Metal and Welding	0	15	5
					14
Third					
	EH-12	Technical Report Writing	2	0	2
	MA-15	Differential Calculus	5	0	5
	ME-16	Statics	5	0	5
	SL-13	Basic Powerplants	0	15	5
					17
Fourth					
	PH-12	Physics II	3	0	3
	PH-15	Physics II Laboratory	0	3	1
	ME-12	Descriptive Geometry	0	6	2
	MA-16	Integral Calculus	4	0	4
	SL-14	Carburetors, Fuel Systems, and Propellers	0	15	5
					15
Fifth					
	EH-15	Psychology	2	0	2
	ME-17	Dynamics	5	0	5
	ME-22	Fluid Mechanics	3	0	3
	SL-15	Hydraulic and Electrical Systems	0	15	5
					15

SIXTH					
	AE-13	Aerodynamics I	5	0	5
	ME-18	Strength of Materials	5	0	5
	SL-16	Advanced Powerplants	0	15	5
					15
SEVENTH					
	AE-25	Aircraft Drafting	0	6	2
	ME-15	Materials and Processes	3	0	3
	EH-16	Business English	2	0	2
	SL-17	Advanced Airframes	0	15	5
		Technical Electives	3	0	3
					15
EIGHTH					
	SL-18	Inspection, Weight and Balance, Review and Tests	0	15	5
		Humanities Electives	5	0	5
		Technical Electives	5	0	5
					15
		Total Credits for Graduation			122

One of the Engineering Drafting Rooms

AERONAUTICAL DRAFTING TECHNOLOGY

This program is designed to meet the needs of the aerospace age for competent design draftsmen. Subject matter provides an effective working understanding of the engineering and aeronautical fundamentals involved. Extensive drafting design training is given in aeronautical and mechanical fields. Aircraft production methods are thoroughly covered.

AERONAUTICAL DRAFTING TECHNOLOGY

4 Semesters (16 Week Semester) — 16 Months Full Time

SEMESTER	SUBJECT NO.	SUBJECT	LECTURE	LAB	CREDITS
First					
	ME-10	Engineering Drawing I	0	6	2
	MA-11	Algebra	4	0	4
	MA-14	Trigonometry and Analytics	5	0	5
	PH-11	Physics I	4	0	4
	PH-14	Physics I Laboratory	0	3	1
	EH-11	English Composition	2	0	2
					18
Second					
	ME-11	Engineering Drawing II	0	6	2
	ME-15	Materials and Processes	3	0	3
	ME-16	Statics	5	0	5
	ME-24	General Shop Practice Laboratory	0	2	1
	PH-12	Physics II	3	0	3
	PH-15	Physics II Laboratory	0	3	1
	EH-12	Technical Report Writing	2	0	2
					17
Third					
	ME-12	Descriptive Geometry	0	6	2
	AE-18	Airframe Laboratory	0	2	1
	AE-24	Principles of Aircraft Design	3	0	3
	AE-25	Aircraft Drafting	0	6	2
	EH-14	Public Speaking	2	0	2
	EH-15	Psychology	2	0	2
		Technical Elective	3	0	3
					15
Fourth					
	AE-26S	Aircraft Detail Design Survey	0	6	2
	AE-27S	Airplane Design Survey	0	6	2
	AE-28	Aircraft Systems Laboratory	0	2	1
	EH-16	Business English	2	0	2
	EH-18	Economics	2	0	2
		Technical Electives	6	0	6
					15
		Total Credits for Certificate			65

FLIGHT SCHOOL

CURRICULA
FLIGHT SCHOOL

NOTE: The hours specified for Commercial Pilot, Instrument, and Multi-Engine courses are based upon F.A.A. minimum requirements.

COMMERCIAL PILOT

FC-11. FLIGHT
- 20 Hours Dual — 100 hp
- 15 Hours Solo — 100 hp
- 5 Hours Link Trainer
- 5 Hours Oral

FC-12. FLIGHT
- 7 Hours Dual — 100 hp
- 3 Hours Dual (Night) — 100 hp
- 30 Hours Solo — 100 hp
- 10 Hours Link Trainer

FC-13. FLIGHT
- 10 Hours Dual — 100 hp
- 30 Hours Solo — 100 hp
- 5 Hours Dual Instrument — 145 hp
- 2 Hours Oral

FC-14. FLIGHT
- 8 Hours Dual — 100 hp
- 25 Hours Solo — 100 hp
- 2 Hours Dual Instrument — 145 hp
- 5 Hours Solo — 145 hp
- 5 Hours Oral

107. BASIC AIRMANSHIP
108. ADVANCED AIRMANSHIP

INSTRUMENT PILOT

IC-15. FLIGHT
- 20 Hours Dual — 100 hp
- 10 Hours Link Trainer
- 4 Hours Oral

109. AIRMANSHIP - INSTRUMENT

MULTI-ENGINE PILOT

ME-1. FLIGHT
- 10 Hours Dual — 900 hp
- 5 Hours Oral

EXECUTIVE PILOT

(See under "Executive Pilot" in Index for reference to detailed information.)

BUSINESS PILOT

(See under "Business Pilot" in Index for reference to detailed information.)

COURSE DESCRIPTIONS
COLLEGE OF ENGINEERING AND TECHNICAL INSTITUTE

AERONAUTICAL

AE-13. AERODYNAMICS I — 5 Credits

Begins with 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-16, ME-22.

AE-14. AERODYNAMICS II — 5 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 stability and control. Lateral and directional stability and control. Prerequisite: AE-13.

AE-17. AERODYNAMICS, SUPERSONIC (Elective) — 3 Credits

Fundamental relations; flow in a duct; pressure, temperature, Mach number, and potential energy changes across normal and oblique shock waves; two-dimensional flow around a corner and through a nozzle; supersonic wind tunnel design, analysis and testing methods; three-dimensional flow over various types of wing and fuselage combinations.

AE-18. AIRFRAME LABORATORY — 1 Credit

Actual work with components of airframe and general aircraft structure and rigging.

AE-19. WIND TUNNEL LABORATORY — 2 Credits

Experiments on tunnel calibration. Two-dimensional wing pressure distribution and calculation of airfoil characteristics with and without flaps deflected. Profile drag by the wake survey rake method. Down wash and vortex motion for finite airfoil. Wing flow visualization in two-dimensional smoke tunnel. Laminar and turbulent boundary layer phenomenon. 3 hours laboratory. Prerequisite: AE-13. Corequisite: AE-14.

AE-21. AIRCRAFT STRUCTURES I — 5 Credits

General procedures. Equilibrium of forces. Space structures. Inertia forces and load factors. Moment of inertia. Mohrs circles. Shear and bending moment diagrams. Shear and bending stresses in symmetrical beams. Prerequisite: ME-18.

AE-22. AIRCRAFT STRUCTURES II 5 Credits

A study of beams with unsymmetrical cross sections. Analysis of typical members of semi-monocoque structures. Mechanical properties of aircraft materials. Analysis of joints and fittings. Design of compression members. Deflection of structures. Prerequisite: AE-21.

AE-24. PRINCIPLES OF AIRPLANE DESIGN 3 Credits

Types of airplanes and their design limitations and consideration. Wing design including airfoil and planform selection. Weight estimate. Power plant selection. Materials of construction. Detail design consideration. Landing gear design. Tail surface design. Control systems. Fuselage design. Preliminary performance calculations. Prerequisite: AE-13.

AE-25. AIRCRAFT DRAFTING 2 Credits

General conventions. Layout drawings, detail drawings and assembly drawings. Local and general notes. Linework and lettering quality. Dimentioning conventions. Drafting of formed sheet metal parts, welded tube structures, mechanical parts, extrusions and standard aircraft parts. 6 hours drafting. Prerequisite: ME-12.

AE-26. AIRCRAFT DETAIL DESIGN 3 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: AE-21. Corequisite: AE-22.

AE-27. AIRPLANE DESIGN 3 Credits

Design considerations; selection of configuration; arrangement of wing, landing gear, empennage, fuselage, cabin and engine. Gross weight estimate. Engine and equipment selection. Wing planform determination. Preliminary flight performance check. Weight and balance drawing. Airplane parasite drag estimation. Selection of optimum airfoil and peak efficiency propeller. Three-view drawings. Flap design and performance estimate. Thrust horsepower required and available, versus velocity; maximum velocity, excess horsepower, rate of climb and ceiling. Horizontal distance to take-off over a fifty-foot obstacle. Range and endurance. Prerequisite: AE-13. Corequisite: AE-14.

AE-28. AIRCRAFT SYSTEMS LABORATORY 1 Credit

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

AE-30. AIRCRAFT PROPULSION SYSTEMS LABORATORY 1 Credit

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

AE-32. JET PROPULSIONS SYSTEMS 3 Credits

A study of ramjets, pulsejets, turbojets, and turboprops. Thrust and propulsion, engine efficiencies, fuel consumptions, nozzle flows, Rayleigh and Fanno line conditions, normal and oblique shocks. Prandtl Meyer expansion. Subsonic and supersonic diffusers. Mass flow. Energy transfer. Centrifugal and axial compressors. Solid and liquid propellant rocket motors.

AE-33. AIRCRAFT SPECIAL PROJECTS (Elective) 2 Credits

A course designed to require the student to do original work in the field of Aeronautical Engineering Technology and related subjects. The student is assigned to a faculty member who directs the student's work toward a definite goal. The student designs and fabricates his project and presents a written and oral report.

AE-41. SPACE MECHANICS (Elective) 3 Credits

Review of mathematical and mechanical fundamentals, including vectors. The tow-body problem; orbits, satellite launched; 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 multistage 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.

Emphasis is on numerical applications wherever practical within the framework of our applied Engineering B.S. concept.

HUMANITIES

EH-11. ENGLISH COMPOSITION 2 Credits

A course designed to build individual proficiency in handling all phases of composition. The student is required to demonstrate his abilities in creative writing, business correspondence, expository writing, and long form reports. The importance of writing ability to the engineer is stressed.

EH-12. TECHNICAL REPORT WRITING 2 Credits

The student becomes familiar with and adept at handling all phases of industrial publication. Includes memorandum writing; staff studies; long form technical reports; advertising and illustrations; graphs, tables, and charts; etc. Prerequisite: EH-11.

EH-14. PUBLIC SPEAKING 2 Credits

Fundamentals of voice production, improvement of vocal quality, pitch, and intensity. Group and individual exercises for improving articulation and enunciation of speech sounds. Practice in analysis and delivery of various types of public speeches. Introduction to organization, phrasing and diction. Prerequisite: EH-11.

EH-15. PSYCHOLOGY 2 Credits

A thorough, penetrating discussion in adjustment and understanding, emphasizing their importance to the engineer. The study probes the fields of frustration responses, defense mechanisms, psychoses and neuroses, etc., relating them to personnel problems in industry.

EH-16. BUSINESS ENGLISH 2 Credits

Fundamentals of business writing, commercial and government writing, employment correspondence, and job application. Prerequisite: EH-11.

EH-18. ECONOMICS I 2 Credits

Introduction of fundamental economic concepts, such as production, money, banking, labor, business organization, international trade, and government fiscal policy. Current economic problems.

EH-19. ECONOMICS II 3 Credits

A continuation of Economics I, which is a prerequisite.

EH-21. 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.

EH-22. WORLD HISTORY 3 Credits

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

EH-23. WORLD LITERATURE 3 Credits

A course on the backgrounds of the English language and literature. Readings from selected masterpieces of the ancient, medieval and renaissance worlds.

EH-24. PHILOSOPHY 3 Credits

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

MATHEMATICS

MA-11. ALGEBRA 5 Credits

Fundamental algebraic operations. Real and complex numbers. Operations with polynomials and fractional expressions. Equations. Functions and graphs. Inequalities. Exponents. Logarithms. Series. Determinants.

MA-14. TRIGONOMETRY AND ANALYTICS 5 Credits

Trigonometric functions. Solution of right and oblique triangles. Use of logarithms. Trigonometric equations. De Moivre's Theorem. Exponential and hyperbolic functions. Functions and graphs, lines, polynomials, conic sections, algebraic curves of higher degree. Trigonometric, exponential, and logarithmic curves. Parametric equations. Corequisite: MA-11.

MA-15. DIFFERENTIAL CALCULUS 5 Credits

Limits. Differentiation of algebraic, trigonometric, logarithmic, and exponential functions. Applications of first and second derivaties and the differential. Prerequisite: MA-14.

MA-16. INTEGRAL CALCULUS 4 Credits

Integration. Application of the definite integral. Trignometric integrals. Methods of integration. Definite integral. Approximate integral. First moment. Centroid. Second moment. Radius of gyration. Liquid pressure. Solid analytical geometry. Partial derivatives. Multiple integrals. Infinite series. Expansion of functions. Differential equations. Prerequisite: MA-15.

MA-17. 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. Prerequisite: MA-16.

MECHANICAL

ME-10. ENGINEERING DRAWING I 2 Credits

Principles of lettering. Linework code and drafting method. The compass. Circles and tangents. Drawing instruments and their use. Geometric construction elements. Orthographic projection methods, 3-view sketches, and the final drawing.

ME-11. ENGINEERING DRAWING II 2 Credits

This part of the engineering course continues with the principles of the first course, introduces standard dimensioning practices and the use of sectional views, auxiliary views and rotations. A comparison is made between the following methods of giving information: orthographic projection, isometric, oblique, and perspective drawings. An introduction is given to the basic elements of good design, manufacturing processes, and principles of using detail and assembly drawings. Prerequisite: ME-10.

ME-12. DESCRIPTIVE GEOMETRY 2 Credits

Principles of orthographic projection to the solution of three-dimensional problems. Study of space relationships of points, lines, and planes. Intersection and development of surfaces. Prerequisite: ME-11.

ME-15. MATERIALS AND PROCESSES

A study of the fundamental nature of metals, alloys, and plastics with emphasis on those used in the aircraft industry. Crystal structure, crystallization, and granular properties of materials. 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.

ME-16. STATICS 5 Credits

Fundamental concepts and definitions of forces, moments, and couples. Resultants of force systems. Equilibrium of coplanar force systems. Equilibrium of trusses and cables. Friction. Prerequisites: MA-11, MA-14.

ME-17. DYNAMICS 5 Credits

Motion of particle and rigid bodies, laws of motion, motion diagrams, work, energy, impulse, and momentum. Prerequisite: ME-16. Corequisite: MA-16.

ME-18. STRENGTH OF MATERIALS 5 Credits

Stresses and strain in tension, compression and sheer. Riveted joints and welded joints. Torsion of shafts. Shear and moment in beams. Stresses in beams. Deflection of beams. Fixed and continuous beams. Beams of constant strength. Combined stresses. Columns. Deflection of beams by area-moment method. Mohr's circle. Prerequisite: ME-17.

ME-20. THERMODYNAMICS I 3 Credits

A study of the various gases, vapors, and gas mixtures, and different heat flows utilized in modern engines, especially in the type of internal combustion engines used in aircraft. The study of physical aspects of the important non-flow processes is followed and supplemented by practical examples from the field or laboratory to provide the skill necessary in the successful solution of such problems. Methods of prediction toward new developments and designs of equipment utilizing heat energy from gases and vapors.

ME-21. ADVANCED THERMODYNAMICS 3 Credits

A more direct application of basic theories in the detailed study of performance and efficiency in all heat engines and heat turbines, especially those used in jet type aircraft and missiles. Steady-flow processes and principles involving various gases and vapors. A broad study of thermal laws and current developments.

ME-22. FLUID MECHANICS 3 Credits

Fluid properties and definitions. Fluid statics. Fluid-flow concepts and basic equations. Viscous effects. Reynolds number. Dimensional analysis and dynamic similitude. Fractionless compressible flow and two-dimensional ideal fluid flows. Prerequisites: PH-11, MA-11, MA-14.

ME-23. MECHANICAL VIBRATION 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. Electrical analogies.

ME-24. GENERAL SHOP PRACTICE LABORATORY 1 Credit

Sheet metal. Welding. Riveting, power grinding. Power saw, nibbler, drill press, lathe, rolls, crimping machine. This course is designed to give student a general working knowledge of basic shop procedures.

SCIENCE

CH-11. CHEMISTRY I 3 Credits

Fundamental principles of chemistry including basic atomic theory, valence and oxidation number, symbols, formulas, equations, and calculations. Properties of hydrogen and oxygen. Factors affecting rate of reaction. The Periodic System. Types of solutions, acids, bases, and salts. Computation of molarity, normality, and pH.

CH-12. CHEMISTRY II 3 Credits

Equilibrium and computations involving various equilibriums. Halogens, sulphur, nitrogen, and their compounds. Iron and the chemistry of steel manufacturing. Other metals of industrial importance. Introduction to organic chemistry.

EE-12. ELECTRICAL CIRCUITRY 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.

PH-11. PHYSICS I, MECHANICS AND HEAT 4 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.

PH-12. PHYSICS II, SOUND, ELECTRICITY AND LIGHT 3 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.

PH-14. PHYSICS I LABORATORY 1 Credit

Use of force table to solve vector problems. A study of acceleration by using Atwood's Machine. Use of pulleys. Incline plane. Wheel and axle. Buoyancy. Densities and specific gravities. Determining specific heats and coefficients of expansion of various materials.

PH-15. PHYSICS II LABORATORY 1 Credit

A study of standing waves in strings and in air columns. Use of sonometer. Use of voltmeter and ammeter in electrical circuits, Wheatstone Bridge measurements. Determining heating effect of an electric current. Study of magnetic fields and electromagnetic induction. Use of optical wheel and optical bench to study index of refraction, and focal lengths of mirrors and lenses.

SHOP LABORATORY

SL-11. BASIC AIRFRAMES — 240 Clock Hours 5 Credits

Shop mathematics, physics, aerodynamics. Use, care, and application of hand tools. Construction of airframes and air foil capable of flight. F.A.A. Rules and Regulations.

SL-12. SHEET METAL AND WELDING—
240 Clock Hours 5 Credits

Sheet metal work, including the selection and use of proper materials, riveting, metal fasteners, bending and forming, and the use of equipment and special tools for these operations. Estimating the cost and amount of materials and the types of equipment required to complete assigned projects. Aircraft welding and welding equipment. Repairs to airframes, engine mounts, and other aircraft components. F.A.A. Rules and Regulations.

SL-13. BASIC POWERPLANTS — 240 Clock Hours 5 Credits

Theory of aircraft engines, including jet, turbo-prop, compound, radial, opposed, and inline. Disassembly, inspection, tracing the internal lubrication, and assembly of aircraft engines. Use of special tools and equipment. F.A.A. Rules and Regulations.

SL-14. CARBURETORS, FUEL SYSTEMS, AND
PROPELLERS — 240 Clock Hours 5 Credits

Operation principles, structural features, and repair of modern aircraft carburetors, including floating, diaphragm, and injection type carburetion. Theory and operation of single and multi-tank fuel systems. Theory and practical application of propellers, from the wooden propeller through the hydraulically and electrically operated, including feathering, non-feathering, reverse-pitch and synchronizing systems. F.A.A. Rules and Regulations.

SL-15. HYDRAULIC AND ELECTRICAL SYSTEMS — 240 Clock Hours 5 Credits

Theory and practical application of hydraulic systems and various components, including brakes, landing gears, and hydraulically operated control surfaces. Theory and practical application of airframe and powerplant electrical components and systems, including magnetos, generators, starters, batteries and regulators, lighting systems, electrically operated control surfaces. F.A.A. Rules and Regulations.

SL-16. ADVANCED POWERPLANTS — 240 Clock Hours 5 Credits

Complete overhaul of "live" engines and their accessories, emphasizing removal, inspection, repair, replacement, assembly, test operation, and trouble shooting. F.A.A. Rules and Regulations.

SL-17. ADVANCED AIRFRAMES — 240 Clock Hours 5 Credits

Maintenance, inspection, repair, and overhaul of complete airframe, including assembly and rigging, hardware, airworthiness, directives, use of aircraft specifications covering fabric and metal, and finishing. F.A.A. Rules and Regulations.

SL-18. INSPECTION, WEIGHT AND BALANCE, REVIEW, AND TESTS — 240 Clock Hours 5 Credits

Theory and application of inspection and inspection procedures. Weight and balance. Review of subjects. School final examinations: written, oral, and practical. F.A.A. Rules and Regulations.

ORIENTATION

W-1. ELEMENTARY ALGEBRA

Fundamental operations of basic intermediate and advanced algebra. Real numbers. Polynomials. Rational fractions. Equations. Quadratic equations. Simultaneous equations. Graphs.

W-2. PLANE GEOMETRY

Plane Geometry with emphasis on point, line, and surface problems. Angles. Triangles. Polygons. Circles. Ellipses.

W-3. PHYSICS

A general introductory course. English and metric systems of measurement. Principles of mechanics, heat, light, sound, electricity and magnetism. Modern physics.

W-4. ENGLISH

A survey of English fundamentals and mechanics stressing the importance of punctuation, grammar, usage, and spelling.

W-5. TRIGONOMETRY

Basic trigonometric functions; solution of right triangles. Basic trigonometric identities. Logarithms of trigonometric functions. Tables and values of functions. Laws of exponents and radicals.

COURSE DESCRIPTIONS

BUSINESS PILOT

HUMANITIES

101. COMPOSITION AND HUMANITIES 3 Credits

Our cultural heritage as transmitted through the Classical expressions of the ancient world—the arts, literature, religion, and philosophy. Special emphasis on those basic concepts and ideas which have a continuing influence in our culture. Correlated practice in composition.

102. COMPOSITION AND HUMANITIES 3 Credits

A study of Medieval and Renaissance man. The development of the Christian synthesis in art, education, music, philosophy, and literature. The emergence of modern man. The breakdown of the Christian synthesis during the Renaissance and the Protestant Reformation. Humanism as expressed through literature, art, and philosophy. Correlated practice in composition.

201. COMPOSITION AND HUMANITIES 3 Credits

An analysis of the Age of Enlightenment. The development of rationalism and empiricism and the emergence of the modern scientific world, as reflected in the arts, literature, and philosophy from the beginning of the seventeenth to the end of the eighteenth century. Correlated practice in composition.

202. COMPOSITION AND HUMANITIES 3 Credits

The spirit of contemporary culture as reflected in the arts, literature, and philosophy from the Industrial Revolution to the present. An examination of such basic influences as determinisms, individualism, collectivism, and relativity. Correlated practice in composition.

SOCIAL SCIENCES

101. DEVELOPMENT OF WESTERN CIVILIZATION I 3 Credits

The historical development of western ideas, values, and institutions. Consideration of elements of both unity and diversity. Examination and analysis of selected ideas, institutions, and events that have most strongly influenced the present.

102. DEVELOPMENT OF WESTERN CIVILIZATION II 3 Credits

Continuation of Social Sciences 101 which is prerequisite.

201. MAN IN CONTEMPORARY SOCIETY I 3 Credits

A consideration of the basic concepts of culture, individual and group interaction, social stratification, socialization, primary groups and associations. Study of the methods, techniques, and findings of anthropology, sociology, and psychology as they are combined to reveal man in his cultural environment.

202. MAN IN CONTEMPORARY SOCIETY II 3 Credits

An examination of the important governmental and economic problems in contemporary American society. Evaluation and analysis of public policy.

NATURAL SCIENCES

101. PHYSICAL SCIENCES I 3 Credits

A balanced, descriptive presentation of the more important facts and theories of the physical sciences. Explanation of the methods of the physical sciences and their relationship to other academic disciplines.

102. PHYSICAL SCIENCES II 3 Credits

Continuation of 101, which is prerequisite.

105. BIOLOGICAL SCIENCES I 3 Credits

An integrated, descriptive presentation of selected important biological processes and principles pertaining to the plant and animal sciences.

106. BIOLOGICAL SCIENCES II 3 Credits

Continuation of 105, which is prerequisite.

ACCOUNTING

101. FUNDAMENTALS OF ACCOUNTING 3 Credits

Designed for non-accounting majors as an aid to better management.

102. FUNDAMENTALS OF ACCOUNTING

Continuation of 101, which is prerequisite.

MANAGEMENT

201. PRINCIPLES OF MANAGEMENT 3 Credits

The general principles of management. Planning. Organization. Control. Location, equipment, and maintenance of factory buildings. Plant layout and machine arrangement. Job analysis. Motion and time study. Production control. Budgets, and industrial costs. Prerequisite: Sophomore standing and Accounting 101 or 111.

260. PRINCIPLES OF TRANSPORTATION 3 Credits

Basic survey of transportation industries; examination and analysis of their responsibilities and functions as private institutions and in public service. Organization and management. Cost and demand characteristics. Equipment, financing, regulation, and public policy. A presentation of the contrast between surface and air transportation. Prerequisite: Marketing 200.

360. AIR TRANSPORTATION 3 Credits

Historical development, characteristics, and present status of the aviation industry. Federal regulation. Commercial air transportation. General aviation. Space administration. Prerequisite: 202 and 260.

361. AVIATION METEOROLOGY 3 Credits

Interpretation of meteorological phenomena affecting the operation of aircraft. Use of weather data for safe flight conditions; analysis of

weather maps and sequence reports for flight planning. A study of the basic concepts of meteorology; temperature, pressure, moisture, air stability, clouds, winds, air masses, and fronts. Prerequisite. Permission of instructor.

362. AIR NAVIGATION 3 Credits

Basic elements of air navigation. Fundamentals and practical application of pilotage, dead reckoning, and radio aids to navigation of aircraft including the use of computers, aerial charts, and Federal Aviation Agency publications. Prerequisite: Permission of instructor. By announcement.

363. FLIGHT 363 — 74 Flight Hours 1 Credit

An introduction to flight with instruction and practice in basic flight maneuvers, cross-country piloting technique, use of navigational radio aids, and introduction to advanced flight maneuvers including emergency conditions and variable weather conditions affecting airplane performance.

25 Hours Dual - 100 hp
35 Hours Solo - 100 hp
5 Hours Dual Instrument - 100 hp
5 Hours Link Trainer
4 Hours Oral

364. FLIGHT 364 — 67 Flight Hours 1 Credit

Continuation of, and intensive practice in, advanced flight maneuvers. Introduction to control of aircraft solely by reference to instruments in both aircraft and synthetic (Link) trainers. Use of radio for precision cross-country flying, let-downs, orientation, and establishing fixes.

12 Hours Dual - 100 hp
3 Hours Dual (Night) - 100 hp
30 Hours Solo - 100 hp
10 Hours Dual Instrument - 100-145 hp
10 Hours Link Trainer
2 Hours Oral

365. FLIGHT 365 — 79 Flight Hours 1 Credit

Advanced cross-country flight with emphasis on navigational technique and standards used in business and airline operations. Fuel computations with varying load conditions. Continuation of practice in emergency procedures, coordination maneuvers, and variable weather conditions.

10 Hours Dual - 100 hp
40 Hours Solo - 100 hp
20 Hours Dual - 145 hp
5 Hours Solo - 145 hp
4 Hours Oral

366. FLIGHT 366 — 68 Flight Hours 1 Credit

80 Hours Airmanship, Instrument

Advanced instrument flight training with emphasis on all phases of radio navigation, including let-downs, instrument approaches, precision turns, and recovery from unusual attitudes in both aircraft and Link Trainers.

Multi-Engine flight training also is covered in this course that goes well beyond acquiring the skill necessary to operate a twin-engine aircraft. The training in this course is divided into two parts. The first part covers local pattern work on required maneuvers and efficient operation of aircraft, with one engine inoperative. The second part involves the combination of multi-engine and instrument flight instruction. This combination is essential since most instrument flying today is in multi-engine aircraft. This part also covers interceptions, tracking, holding, approaches, missed approaches, utilizing Omni and A.D.F. Emphasis is on ILS approaches with one engine inoperative, circling approaches, and canyon approaches.

30 Hours Dual Instrument - 100-145 hp
10 Hours Link Trainer
20 Hours Multi-Engine - 900 hp
8 Hours Oral
80 Hours Radio Navigation for Instrument

367. TECHNICAL ASPECTS OF AVIATION 3 Credits

Practical, non-engineering presentation of aircraft procedures relative to safe, economic, and efficient operation, including aircraft structures, systems, theory of flight, maintenance, repair, overhaul, and operation. Present and future requirements of airlines and corporate aircraft. Review of types of powerplants: reciprocating, turbo-prop, turbo-jet, and rocket. Prerequisite: Permission of instructor. By announcement.

368. AVIATION RADAR 3 Credits

Radar fundamentals. Description of various land-based and airborne radars and their practical use in aviation by the meteorologist pilot, and other aviation personnel. Emphasis on an understanding of airborne radar as required for weather avoidance, terrain mapping, and navigational purposes. Prerequisite: 361 or equivalent and permission of instructor; pilot rating preferred.

465. AIRLINE MANAGEMENT (Elective) 3 Credits

The evolution and development of the Commercial Air Transportation Industry. Airline familiarization. Route certification procedure. Airline organization, accounting, economic aspects, finance, industrial relations, and insurance. Prerequisite: 360. By announcement.

467. FEDERAL AVIATION REGULATIONS 3 Credits

A comprehensive study of economic and safety aviation regulations of the Civil Aeronautics Board and the Federal Aviation Agency, including sources of legislative authority and application of general administrative law.

468. AIR CARGO (Elective) 3 Credits

Development and growth of air cargo, including air express and air freight. Traffic, sales, rates, equipment, packaging, handling, regulation, and other problems. Review of various air cargo industry studies and analyses. Prerequisite: 360. By announcement.

469. LEGAL ASPECTS OF AVIATION (Elective) 3 Credits

Federal, state, and local aspects of law relating to aviation—commercial air transportation in particular, with emphasis on the areas of legislation, torts (negligence and property rights), air carrier liability, and international aviation law. Prerequisite: 360, Business Law 212, and permission of instructor. By announcement.

565. AIRLINE ADMINISTRATION (Elective) 3 Credits

Organization and operation procedures of the airline industry. Managerial functions involving coordination and control are considered together with current problems affecting the airline industry. Major policies affecting traffic, operations, personnel, and finances are reviewed. Prerequisite: 465, 469 and permission of instructor.

566. AVIATION RESEARCH SEMINAR (Elective) 3 Credits

The preparation of research projects dealing with current and future aviation problems and practices and their effects upon the aviation industry. Course is designed to correlate previous studies by the student. Prerequisite: Permission of instructor.

MARKETING

200. PRINCIPLES OF MARKETING 3 Credits

Activities involved in the movement of goods, from producer to consumer. Marketing institutions, functions, and price policies discussed. Prerequisite: Sophomore standing.

ECONOMICS

201. ECONOMIC PRINCIPLES AND PROBLEMS 3 Credits

Basic course investigating the problems of the production of wealth, including pricing and business organization. The distribution of wealth. Money, credit, and banking. International trade. Labor. Public finance. The economic organization of society. Prerequisite: Sophomore standing.

202. ECONOMIC PRINCIPLES AND PROBLEMS 3 Credits

Continuation of 201, which is prerequisite.

BUSINESS STATISTICS

221. ELEMENTARY BUSINESS STATISTICS 4 Credits

Collection of numerical data. Discussion of sources of data. Presentation through use of charts and tables. Measures of central tendency. Measures of dispersion. Basic concepts relating to time series analysis and to index numbers. Lecture, 3 hours; laboratory, 2 hours.

BUSINESS LAW

212. LEGAL ENVIRONMENTS OF BUSINESS FUNDAMENTALS 3 Credits

Contracts: Nature and requisites of formation, operation, interpretation, discharge, and remedies. Agency: Formation, operation and termination. Rights and duties of parties, inter se, and of third parties. Prerequisite: Sophomore standing.

PSYCHOLOGY

201. GENERAL PRINCIPLES OF PSYCHOLOGY 3 Credits

Introduction to the principles of psychology. Prerequisite: Sophomore standing.

309. PERSONALITY AND ITS DEVELOPMENT 3 Credits

A survey of the theories of Freud, Adler, Jung, Lewin, Lecky, and others. Recent research and formulations. Prerequisite: 201.

BUSINESS

347. BUSINESS ENGLISH 3 Credits

Principles of writing business letters and reports. Practical experience in writing sales, credit, collection, adjustment, and application letters. Prerequisite: English 112 or its equivalent and Junior standing.

FINANCE

301. MONEY AND BANKING 3 Credits

Nature and functions of money. Credit and credit instruments. Commercial banking. Federal Reserve System. Monetary and fiscal policies. Value of money. International monetary principles and problems. Prerequisite: Economics 202.

351. BUSINESS FINANCE 3 Credits

The establishment, maintenance, and financing of a business enterprise. Earnings. Financial expansions and consolidations. Reorganization. The stock and commodity markets. Machinery and regulation by the Securities and Exchange Commission. Prerequisite: 6 credits of accounting.

GOVERNMENT

301. GOVERNMENT IN THE MODERN WORLD: PRINCIPLES 3 Credits

Principles and institutions of modern government, with special attention to the government of the United States. An examination of the constitutional basis of government, the institutions through which government operates, and the role of people in the political and governmental process. Prerequisite: Social Sciences 202, or permission of instructor.

302. GOVERNMENT IN THE MODERN WORLD: PUBLIC POLICY 3 Credits

Government policies and programs in the modern world with special attention to international matters. An examination of the problems facing the governments of individual countries and the programs and policies adopted to meet these problems. Prerequisite: 301.


Embry Riddle
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COURSE DESCRIPTIONS

FLIGHT SCHOOL

FC-11. 45 Hours

Minimum flight time set forth by F.A.A. for Private Pilot qualification. Included in this course are first solo, dual cross-country, solo cross-country, Omni radio orientation, and basic instrument training. Use of complete communications systems and thorough explanation of basic flight maneuvers pertinent to the Private Pilot Certificate.

FC-12. 50 Hours

Introduction to advanced flight maneuvers. Night-flying qualifications are met in this period. Introduction to commercial instrument requirements in the Link Trainer.

FC-13. 47 Hours

Radio dual cross-country, including navigation with Omni, A. D. F., and radar approach control. These systems are incorporated also into solo cross-country flying in modern trainers. Five hours of local instrument flight using basic and advanced instrument techniques.

FC-14. 45 Hours

Final phases of commercial qualifications in maneuvers and special checkouts. Emphasis is on oral explanation and thorough review of all subjects studied in previous courses in preparation for Commercial flight test.

IC-15. 44 Hours

Advanced instrument flight training with emphasis on all phases of radio navigation, including let-downs, instrument approaches, precision turns, and recovery from unusual attitudes in both aircraft and Link Trainers.

ME-1. 15 Hours

A minimum of ten flight hours in a twin-engine executive-type aircraft. Techniques of operating safely and efficiently with one engine inoperative. In-flight problems involving dual fuel supply considerations, load factors; appropriate F.A.A. regulations, such as the use of VMC and best rate of climb, single engine, speeds in their application toward greater safety. Aerodynamic characteristics with regard to aircraft systems, emergency operation, feathering and unfeathering, and also the effect of temperature and altitude on take-off and landing distances.

101. 74 Hours

An introduction to flight with instruction and practice in basic flight maneuvers, cross-country piloting technique, use of navigational radio aids, and introduction to advanced flight maneuvers, including emergency

conditions and variable weather conditions affecting airplane performance.

25 Hours Dual - 100 hp
35 Hours Solo - 100 hp
5 Hours Dual Instrument - 90-100 hp
5 Hours Link Trainer
4 Hours Oral

102. 57 Hours

Continuance of, and intensive practice in, advanced flight maneuvers. Introduction to control of aircraft solely by reference to instruments in both aircraft and synthetic (Link) trainers. Use of radio for precision cross-country flying, let-downs, orientation and establishing fixes.

12 Hours Dual - 100 hp
3 Hours Dual (Night) - 100 hp
30 Hours Solo - 100 hp
5 Hours Dual Instrument - 145 hp
5 Hours Link Trainer
2 Hours Oral

103. 45 Hours

Advanced cross-country flight with emphasis on navigational technique and standards used in business and airline flight operations. Fuel computations with varying load conditions. Continuation of practice in emergency procedures, coordination maneuvers and variable weather conditions.

20 Hours Dual - 145 hp
20 Hours Solo - 100 hp
5 Hours Solo - 145 hp

Link Trainers prepare for basic instrument procedures

104. 44 Hours

Preparation for the F.A.A. Commercial Flight Test. Review of all air work including chandells, lazy eights, on-pylons, short and soft field landings. Review of all instrument flying and intensive airmanship preparation.

10 Hours Dual - 100 hp
20 Hours Solo - 100 hp
5 Hours Dual Instrument - 100-145 hp
5 Hours Link Trainer
4 Hours Oral

105. 44 Hours

Advanced instrument flight training with emphasis on all phases of radio navigation, including let-downs, instrument approaches, precision turns, and recovery from unusual attitudes, in both aircraft and Link Trainers.

30 Hours Dual Instrument - 100-145 hp
10 Hours Link Trainer
4 Hours Oral

106. 24 Hours

Multi-engine flight training that goes well beyond acquiring the skill necessary to operate a twin-engine aircraft. The training in this course is divided into two parts. The first part covers local pattern work on required maneuvers and efficient operations of aircraft, with one engine inoperative. The second part involves the combination of multi-engine and instrument flight instruction. This combination is essential since most instrument flying today is in multi-engine aircraft. This part also covers interceptions, tracking, holding, approaches, missed approaches, utilizing Omni and A. D. F. Emphasis is on ILS approaches with one engine inoperative, circling approaches, and canyon approaches.

20 Hours Multi-Engine - 900 hp
4 Hours Oral

107. BASIC AIRMANSHIP

Theory and facts of flight. General service and flight safety in practice. Air traffic control and communication procedures. Federal Aviation Agency regulations pertaining to the pilot. Aerial navigation: Pilotage, dead reckoning, radio maps, charts, and instruments necessary for safe flight operations under various conditions. Meteorology: A study of weather affecting the safe operations of aircraft, fundamentals concerning weather phenomena, interpretations of weather data, including weather maps, teletype sequence reports, and forecasts.

108. ADVANCED AIRMANSHIP

A continued and advanced study of 107, which is prerequisite.

109. AIRMANSHIP - INSTRUMENT

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 F. A. A. publications covering instrument flight rules, regulations, and procedures.

363. 74 Hours 1 Credit

An introduction to flight with instruction and practice in basic flight maneuvers, cross-country piloting technique, use of navigational radio aids, and introduction to advanced flight maneuvers, including emergency conditions and variable weather conditions affecting airplane performance.

25 Hours Dual - 100 hp
35 Hours Solo - 100 hp
5 Hours Dual Instrument - 100 hp
5 Hours Link Trainer
4 Hours Oral

364. 67 Hours 1 Credit

Continuation of, and intensive practice in, advanced flight maneuvers. Introduction to control of aircraft solely by reference to instruments in both aircraft and synthetic (Link) trainers. Use of radio for precision cross-country flying, let-downs, orientation, and establishing fixes.

12 Hours Dual - 100 hp
3 Hours Dual (Night) - 100 hp
30 Hours Solo - 100 hp
10 Hours Dual Instrument - 100-145 hp
10 Hours Link Trainer
2 Hours Oral

365. 79 Hours 1 Credit

Advanced cross-country flight with emphasis on navigational technique and standards used in business and airline flight operations. Fuel computations with varying load conditions. Continuation of practice in emergency procedures, coordination maneuvers, and variable weather conditions.

10 Hours Dual - 100 hp
40 Hours Solo - 100 hp
20 Hours Dual - 145 hp
5 Hours Solo - 145 hp
4 Hours Oral

366. 68 Hours — 80 Hours Airmanship-Instrument 1 Credit

Advanced instrument-flight training with emphasis on all phases of radio navigation, including let-downs, instrument approaches, precision turns, and recovery from unusual attitudes in both aircraft and Link Trainers.

Multi-engine flight training also is covered in this course that goes well beyond acquiring the skill necessary to operate a twin engine aircraft. The training in this course is divided into two parts. The first part covers local pattern work on required maneuvers and efficient operation of aircraft, with one engine inoperative. The second part involves the combination of multi-engine and instrument flight instruction. This combination is essential since most instrument flying today is in multi-engine aircraft. This part also covers interceptions, tracking, holding, approaches, missed approaches, utilizing Omni and A.D.F. Emphasis is on ILS approaches with one engine inoperative, circling approaches, and canyon approaches.

30 Hours Dual Instrument - 100-145 hp
10 Hours Link Trainer
20 Hours Multi-Engine - 900 hp
8 Hours Oral
80 Hours Radio Navigation for Instrument

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AEROSPACE: *Key To The Future*

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