



COURSE OUTLINE

ASR105

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Prepared: Larry Canduro Approved: Corey Meunier

Course Code: Title	ASR105: TRADE CALCULATIONS
Program Number: Name	4067: AIRCRAFT STRUCT TECH
Department:	AIRCRAFT STRUCTURAL REPAIR
Semester/Term:	17F
Course Description:	This course studies the rules and procedures needed to obtain a complete understanding of modern technical mathematics as it applies to aircraft structural repair work. The participants will solve practical applied problems after studying and learning the fundamental concepts involved. Applied problems include layout work and bend calculations.
Total Credits:	2
Hours/Week:	2
Total Hours:	32
Vocational Learning Outcomes (VLO's): Please refer to program web page for a complete listing of program outcomes where applicable.	#9. Apply weight and balance formulas. #13. Fabricate sheet metal parts with the use of shop equipment and manuals.
Essential Employability Skills (EES):	#3. Execute mathematical operations accurately. #4. Apply a systematic approach to solve problems. #5. Use a variety of thinking skills to anticipate and solve problems. #6. Locate, select, organize, and document information using appropriate technology and information systems. #7. Analyze, evaluate, and apply relevant information from a variety of sources. #10. Manage the use of time and other resources to complete projects.
Course Evaluation:	Passing Grade: 70%, B
Other Course Evaluation & Assessment Requirements:	Test #1 - Fractions, Decimals, Ratio & Proportion and Measurement (20%) Test #2 - Geometry – Bend Calculations (50%) Test #3 - Trigonometry – Bend Calculations (30%) Grade



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Definition Grade Point Equivalent

A+ 90 – 100% 4.00

A 80 – 89%

B 70 - 79% 3.00

C 60 - 69% 2.00

D 50 – 59% 1.00

F (Fail) 49% and below 0.00

CR (Credit) Credit for diploma requirements has been awarded.

S Satisfactory achievement in field /clinical placement or non-graded subject area.

U Unsatisfactory achievement in field/clinical placement or non-graded subject area.

X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.

NR Grade not reported to Registrar's office.

W Student has withdrawn from the course without academic penalty.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Test 1: Fractions, Decimals, Ratio & Proportion and Measurement	20%
Test 2: Geometry - Bend Calculations	50%
Test 3: Trigonometry - Bend Calculations	30%

Books and Required Resources:

Aviation Maintenance Technician Handbook: Airframe: Volume 1 by Federal Aviation Administration
ISBN: 9781560279501

Aviation Maintenance Technician Handbook: Airframe: Volume 2 by Federal Aviation Administration
ISBN: 9781560279525

Aviation Maintenance Technician Handbook: General by Federal Aviation Administration
ISBN: 9781619540255

Standard Aviation Maintenance Handbook by Jeppesen
ISBN: 9780884873242

Course Outcomes and Learning Objectives:

Course Outcome 1.

Upon successful completion of this course the student will demonstrate the ability to understand



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and solve the practical applied problems related to:

Introduction to Arithmetic

Learning Objectives 1.

- listen to teacher presentation on the definitions of terms, sequence of operations and applying the rules and procedures to problem solving
- complete assignment for discussion in class
- participate in a hands-on demonstration on the use of hand-held scientific calculators

Course Outcome 2.

Upon successful completion of this course the student will demonstrate the ability to understand and solve the practical applied problems related to:

Common Fractions

Learning Objectives 2.

- listen to teacher presentation on the following principles of common fractions: mixed numbers, proper and improper fractions, reducing a common fraction to its lowest terms, reducing an improper fraction, changing a whole or mixed number to an improper fraction, finding the lowest common denominator for two or more fractions
- complete assignment #1 for discussion in class
- listen to teacher presentation on the addition, subtraction, multiplication and division of fractions, cancellation and complex fractions
- complete assignment #2 for discussion in class
- participate in a class discussion on a review of arithmetic and common fractions

Course Outcome 3.

Upon successful completion of this course the student will demonstrate the ability to understand and solve the practical applied problems related to:



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Decimal Fractions

Learning Objectives 3.

- listen to teacher presentation on the following principles of decimal fractions: reading numbers, changing a common fraction to a decimal fraction and vice versa, using a table of decimal equivalents, adding, subtracting, multiplying and dividing decimals and rounding off numbers
- complete assignment for discussion in class

Course Outcome 4.

Upon successful completion of this course the student will demonstrate the ability to understand and solve the practical applied problems related to:

Ratio and Proportion

Learning Objectives 4.

- listen to teacher presentation on the principles of ratio and proportion
- complete assignment #1 for discussion in class
- listen to teacher presentation on the applications of density, specific gravity and the conversion of units
- complete assignment #2 for discussion in class
- participate in class discussion on a review of decimal fractions and ratio and proportion

Course Outcome 5.

Upon successful completion of this course the student will demonstrate the ability to understand and solve the practical applied problems related to:

Measurement

Learning Objectives 5.

- listen to teacher presentation on the various units of measurement and conversions



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between

English and Metric systems, using conversion tables

- practice using conversion tables as needed to aid in problem solving throughout ASR105

Course Outcome 6.

Upon successful completion of this course the student will demonstrate the ability to understand and solve the practical applied problems related to:

Basic Algebra

Learning Objectives 6.

- listen to teacher presentation on the addition, subtraction, multiplication and division of signed numbers and how to solve and check simple equations
- apply the algebra skills learned to problem solving throughout ASR105

Course Outcome 7.

Upon successful completion of this course the student will demonstrate the ability to understand and solve the practical applied problems related to:

Geometry

Learning Objectives 7.

- observe teacher demonstration on how to construct the various geometric surfaces that are used for layout exercises related to aircraft structural repair work
- work individually on constructing the layout exercises
- listen to teacher presentation on perimeter, circumference, bend layout terms and bend allowance calculations
- complete assignments on perimeter, circumference and bend allowance exercises for discussion in class
- listen to teacher presentation on area and volume



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- complete assignment for discussion in class

Course Outcome 8.

Upon successful completion of this course the student will demonstrate the ability to understand and solve the practical applied problems related to:

Trigonometry

Learning Objectives 8.

- listen to teacher presentation on the introduction to trigonometry, the trigonometric functions and the applications to right triangles
- complete assignment for discussion in class

Date:

Friday, September 1, 2017

Please refer to the course outline addendum on the Learning Management System for further information.