#### DOCUMENT RESUME

ED 350 428 CE 062 110

TITLE Avionics Maintenance Technology Program Standards.

INSTITUTION Georgia Univ., Athens. Dept. of Vocational

Education.

SPONS AGENCY Georgia State Dept. of Technical and Adult Education,

Atlanta.

PUB DATE 90

CONTRACT GA-89-110192

NOTE 148p.; For the program guide, see CE 062 109. PUB TYPE Guides - Classroom Use - Teaching Guides (For

Teacher) (052)

EDRS PRICE MF01/PC06 Plus Postage.

DESCRIPTORS \*Aviation Education; \*Aviation Mechanics;

Postsecondary Education; Program Development; \*State Standards; Technical Education; Two Year Colleges

IDENTIFIERS Georgia

#### ABSTRACT

This publication contains statewide standards for the avionics maintenance technology program in Georgia. The standards are divided into the following categories: foundations, diploma/degree (philosophy, purpose, goals, program objectives, availability, evaluation); admissions, diploma/degree (admission requirements, provisional admission requirements, recruitment, evaluation and planning); program sturcture, diploma/degree (curriculum design, program numbering system, program consistency, exit points, credentials, course code, course consistency, course sequence, electives, course transferability); program evaluation and planning (program evaluation; program planning; enrollment, graduation, and placement levels; attrition levels; student performance); instructional program (course content; course objectives; course instruction; occupation-based instruction; evaluation of students; grading system; laboratory management; equipment, supplies, and materials; physical facility); academic skills (academic requirements); employability skills (job acquisition, job retention and advancement); staff (faculty qualifications and responsibilities); advisory committee (function, membership, meetings); special needs (commitment); equity (commitment); and health and safety (commitment). Each standard consists of these components: standard statement, explanatory comment, and evaluative criteria. (NLA)



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# AVIONICS MAINTENANCE TECHNOLOGY PROGRAM STANDARDS

Developed and Produced Under Contractual Agreement with

Georgia Board of
Technical and Adult Education
Office of Technical Education
660 South Tower
One CNN Center
Atlanta, Georgia 30303-2705
1990



# AVIONICS MAINTENANCE TECHNOLOGY PROGRAM STANDARDS

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#### **ACKNOWLEDGEMENTS**

The development of Avionics Maintenance Technology program standards is a significant step for technical education and economic development in Georgia. These standards represent a statewide commitment to provide consistent, quality technical education, to equip our graduates with the background and skills necessary to meet their individual occupational needs, and to meet the currently expanding needs of the Georgia employment market.

Many people have contributed time, effort, and expertise to the standards development project. The Georgia Board of Technical and Adult Education, the Board's Standards Committee, the standards development committee, and the project staff have worked diligently to make the establishment of these standards a reality. Robert Mabry, Doug Bolen, and Patt Stonehouse of the Georgia Department of Technical and Adult Education have provided direction for the project. Walter Sessoms, in his past role as Board's Standards Committee chairman, contributed leadership, motivation, and insight to the standards project. James Crisp, Coordinator of Educational Programs, has provided invaluable assistance in planning and monitoring the project.

These efforts have been sustained by the commitment of the Board's Standards Committee whose members each brought special concern and expertise to the standards development project. William Wiley, present committee chair, has assumed the leadership role with the energy and integrity that will assure successful progress of the standards development process.

We extend sincere thanks to each member of the Board's Standards Committee below.

Fred Chamberlain

Columbus

Costelle Walker

Atlanta

Jean Hartin

Columbus

William Wiley, Chairperson

Macon

Judy Hulsey
Carrollton



Special recognition should also be given to the standards development committee who worked to create the Avionics Maintenance Technology program standards. Without the cooperation of Georgia business and industry representatives who donated their time and energies to the project, these standards would not have been possible. We recognize and thank each member of the Avionics Maintenance Technology State Technical Committee for their invaluable contribution to the development of the program standards.

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The Occupational Working Committee, composed of educators from the technical institutes and State Technical Committee members, provided direct technical support and expertise in the development of the program standards. The members of this committee were indispensable in the development of the program standards. We recognize and thank the educators who participated on the Occupational Working Committee.

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We would also like to thank all the other business, industry, and educational leaders who contributed to the development of statewide standards through service as technical experts in the standards information network. In addition, we thank Claire Thompson for communications, Lois Brown and Lee Burket for editorial assistance, and Lisa Parr and Rhonda Farmer for electronic publishing assistance.

Eugene Hunt, Chairperson

Georgia Board of Technical and Adult Education

Keń Breeden, Commissioner

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Georgia Department of Technical and Adult Education



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#### HOW TO USE THIS MANUAL

Tab Dividers

This document is divided into sections, each section being divided from the others by means of a section-identifier tab. Each section contains standard(s) pertaining to a particular category of standards.

**Table of Contents** 

The Table of Contents lists the tabbed categories of standards plus the title and identifier number for each standard within each tabbed section.

**Numbering System** 

Each standard has a unique six-digit identifier number. The number is divided into three sets of two-digit couplets, each set being divided by a dash.

Example: 03-04-05...

03 indicates standard document #3 (i.e., The Electronic Engineering Standards document).

04 indicates section #4 in the document (i.e., The Program Evaluation and Planning standards section).

05 indicates standard #5 within section four (i.e., The Student Performance standard within the Program Evaluation and Planning standards section).

Finding a Standard

Standard identifier numbers appear in the upper right-hand corner of each page. To find a given standard, refer to the Table of Contents to find the identifier number of the standard of interest, select the appropriate section tab, and find the desired standard within the selected tab section.

**Amendments** 

Registered manual holders are instructed to keep their manuals updated as amendments are disseminated.

Document Transmittal All new or revised documents are sent to the registered holder of the manual and are recorded on a Manuals Document Transmittal Form. Transmittals are numbered consecutively, and instructions for use are printed on the form.

Amendment Record The registered holder of the manual records the receipt of all Manual Document Transmittals on the Amendment Record. This record and instructions are found on the reverse side of the manual title page.



# FOUNDATIONS (Philosophy)

#### Standard Statement

A philosophy statement is developed expressing the beliefs and values that govern the content and conduct of the Avionics Maintenance Technology program.

### **Explanatory Comment**

A statewide program philosophy statement is developed and provided for the Avionics Maintenance Technology program. The statewide philosophy statement may be augmented at the local level so that the unique circumstances of the community may be accommodated.

The Avionics Maintenance Technology program philosophy statement expresses the fundamental educational and occupational principles that guide the instructional process.

### Evaluative Criteria

The Avionics Maintenance Technology program has a clearly defined, written philosophy statement that is reviewed by the program faculty, the administration, and the program advisory committee.

Any addition to the Avionics Maintenance Technology program philosophy statement is developed by the program faculty, the administration, and the program advisory committee.

The philosophy of the Avionics Maintenance Technology program is in accordance with the philosophy of the Georgia Board of Technical and Adult Education and reflects the beliefs, values, and attitudes of the institution, the instructional field, the community, and the employment market.

The philosophy of the Avionics Maintenance Technology program determines the unique role of the program in meeting the technical educational needs of the students, the community, and the employment market.

The philosophy of the Avionics Maintenance Technology program reflects a desire to achieve educational excellence.



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The philosophy of the Avionics Maintenance Technology program reflects a commitment to meet the needs of business and industry.

The philosophy of the Avionics Maintenance Technology program includes a nondiscrimination statement pertaining to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, and economic disadvantage.

The philosophy statement of the Avionics Maintenance Technology program is approved by the administration of the institution.



#### **PHILOSOPHY**

The basic beliefs, attitudes, and concepts that are the foundation of the Avionics Maintenance Technology program are expressed in the following statements.

Avionics Maintenance Technology is a program of study which is compatible with the policies of the Georgia Board of Technical and Adult Education and encourages each Avionics Maintenance Technology program student to benefit and contribute as a partner in the economic development and stability of Georgia. The philosophy of the Avionics Maintenance Technology program is founded on the value attributed to individual students, the avionics maintenance technology profession, and technical education.

The Avionics Maintenance Technology program of study is consistent with the philosophy and purpose of the institution. The program provides academic foundations in communications, mathematics, and human relations, as well as technical fundamentals. Program graduates are well grounded in the fundamentals of electrical, electronic, and mechanical theory and application, and are prepared for employment and subsequent upward mobility.

The Avionics Maintenance Technology program provides the student with the necessary knowledge and skills to adapt to a variety of positions in the rapidly changing avionics maintenance technology field. Important attributes for success of program graduates are critical thinking, problem solving, human relations skills, and the ability to apply technology to work requirements.

The program structure acknowledges individual differences and provides opportunities for students to seek fulfillment of their educational goals. The program does not discriminate on the basis of race, color, national origin, religion, sex, handicapping condition, academic disadvantage, or economic disadvantage.

To assist each student to attain his or her respective potential within the program, both the instructor and the student incur an obligation in the learning process. The instructor is a manager of instructional resources and organizes instruction in a manner which promotes learning. The student assumes responsibility for learning by actively participating in the learning process.



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This is a dynamic field which requires attention to current curriculum and up-to-date instructional equipment. The Avionics Maintenance Technology program must promote the concept of change as the technology evolves. The need for nurturing the spirit of involvement and lifelong learning is paramount in the field of avionics maintenance technology.



# FOUNDATIONS (Purpose)

#### Standard Statement

A purpose statement delineating the instructional services which the Avionics Maintenance Technology program provides is developed and implemented.

### **Explanatory Comment**

A statewide purpose statement is developed and provided for the Avionics Maintenance Technology program. The statewide purpose statement may be augmented at the local level so that the unique circumstances of the community may be accommodated.

A major purpose of the Avionics Maintenance Technology program is to meet community and employment market needs for education in avionics maintenance technology.

### Evaluative Criteria

The Avionics Maintenance Technology program has a clearly defined, written purpose statement that is reviewed by the program faculty, the administration, and the program advisory committee.

Any addition to the Avionics Maintenance Technology program purpose statement is developed by the program faculty, the administration, and the program advisory committee.

The purpose of the Avionics Maintenance Technology program is in accordance with the purpose of the Georgia Board of Technical and Adult Education and the institution.

The purpose of the Avionics Maintenance Technology program reflects the values and beliefs expressed in the program philosophy.

The purpose of the Avionics Maintenance Technology program includes a nondiscrimination statement pertaining to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, and economic disadvantage.

The purpose statement of the Avionics Maintenance Technology program is approved by the administration of the institution.



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#### **PURPOSE**

The purpose of the Avionics Maintenance Technology program is to provide educational opportunities to individuals that will enable them to obtain the knowledge, skills, and attitudes necessary to succeed in the field of avionics maintenance technology.

The Avionics Maintenance Technology program provides educational opportunities regardless of race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, or economic disadvantage.

The Avionics Maintenance Technology program is intended to produce graduates who are prepared for employment as avionics technicians. Program graduates are to be competent in the areas required for the Federal Aviation Administration Airframe Mechanics certification and in the general areas of written and oral communications; algebra, geometry, and trigonometry; and interpersonal relations. Program graduates are to be competent in the fundamentals of aircraft electrical, electronic, hydraulic, pneumatic, and mechanical systems maintenance; and avionics systems theory, application, and troubleshooting.



# FOUNDATIONS (Goals)

#### Standard Statement

A program goals statement focuses the efforts of the Avionics Maintenance Technology program.

### **Explanatory Comment**

A statewide goals statement is developed and provided for the Avionics Maintenance Technology program. The statewide program goals statement may be augmented at the local level so that the unique circumstances of the community may be accommodated.

Goals are broad statements of intent that delineate the achievements the Avionics Maintenance Technology program seeks to attain. Goals are stated in non-quantifiable terms.

### Evaluative Criteria

The Avionics Maintenance Technology program has a clearly defined, written goals statement that is reviewed by the program faculty, the administration, and the program advisory committee.

Any addition to the Avionics Maintenance Technology program goals statement is developed by the program faculty, the administration, and the program advisory committee.

The goals of the Avionics Maintenance Technology program are in accordance with the philosophy and purpose of the program.

The goals of the Avionics Maintenance Technology program reflect a desire to provide exemplary occupational/technical education.

The goals of the Avionics Maintenance Technology program reflect a commitment to assisting students to achieve successful employment in the avionics maintenance technology field.

The goals of the Avionics Maintenance Technology program are the basis for the development of program objectives.

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The goals of the Avionics Maintenance Technology program include a nondiscrimination statement pertaining to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, and economic disadvantage.

The goals statement of the Avionics Maintenance Technology program is approved by the administration of the institution.



# GOALS (Process)

The goals of the Avionics Maintenance Technology program are to:

- l. Provide education which acknowledges individual differences and respects the right of individuals to seek fulfillment of educational needs.
- 2. Provide an environment which encourages the individual to benefit and contribute as a partner in the economic progress, development, and stability of Georgia.
- 3. Provide education which develops the potential of each student to become a productive, responsible, and upwardly mobile member of society.
- 4. Provide quality avionics maintenance technology education in an atmosphere that fosters interest in and enthusiasm for learning.
- 5. Prepare graduates to function as accountable and responsible members within their field of endeavor.
- 6. Prepare graduates to function as safe and competent practitioners in the field of avionics maintenance technology.
- 7. Prepare program graduates with the highest level of competence possible given the constraints of the interests and ability levels of the individual.
- 8. Provide educational and related services without regard to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, or economic disadvantage.
- 9. Foster employer participation, understanding, and confidence in the instructional process and the competence of Avionics Maintenance Technology program graduates.



# FOUNDATIONS (Program Objectives)

#### Standard Statement

An objectives statement based on established program goals is developed for the Avionics Maintenance Technology program.

### **Explanatory Comment**

A statewide objectives statement is developed and provided for the Avionics Maintenance Technology program. The statewide program objectives statement may be augmented at the local level so that the unique circumstances of the community may be accommodated.

Program objectives are desired program outcomes stated in measurable, temporal, and operational terms.

### Evaluative Criteria

The Avionics Maintenance Technology program has a clearly defined, written objectives statement that is reviewed by the program faculty, the administration, and the program advisory committee.

Any addition to the Avionics Maintenance Technology program objectives statement is developed by the program faculty, administration, and the program advisory committee.

An essential objective of the Avionics Maintenance Technology program is to prepare students for successful employment in the field of avionics maintenance technology.

The objectives of the Avionics Maintenance Technology program stress learning outcomes, efficiency, enrollment, public relations, and other outcomes that impact on program quality.

A major objective of the Avionics Maintenance Technology program is student achievement of identified exit point competencies.

The objectives of the Avionics Maintenance Technology program include a nondiscrimination statement pertaining to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, and economic disadvantage.



The objectives statement of the Avionics Maintenance Technology program is approved by the administration of the institution.



# OBJECTIVES (Process)

The objectives of the Avionics Maintenance Technology program are to:

- 1. Provide current curriculum, instructional materials, and equipment (in accordance with available funding) which teach knowledge, skills, and attitudes appropriate to industry needs.
- 2. Provide educational facilities which foster learning and provide safe, healthy environments available and accessible to all students who can benefit from the program.
- 3. Provide academic instruction which supports effective learning within the program and which enhances professional performance on the job.
- 4. Provide employability skills which foster work attitudes and work habits that will enable graduates of the program to perform as good employees.
- 5. Nurture the desire for learning so that graduates will pursue their own continuing education as a lifelong endeavor.
- 6. Provide an educational atmosphere which promotes a positive self-image and a sense of personal well-being.
- 7. Provide education that fosters development of good safety habits.
- 8. Provide admission, educational, and placement services without regard to race, color, national origin, religion, sex, age, or handicapping condition.
- 9. Provide information to the public regarding the program that will facilitate recruitment and enrollment of students.
- 10. Promote good public relations via contacts and regular communications with business, industry, and the public sector.
- 11. Promote faculty and student rapport and communications to enhance student success in the program.



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# FOUNDATIONS (Availability)

#### Standard Statement

Written philosophy, purpose, goals, and objectives statements for the Avionics Maintenance Technology program are made available to the staff of the institution and the general public.

#### **Explanatory Comment**

Published Avionics Maintenance Technology program philosophy and purpose statements are important recruitment tools that help students to select programs that meet their needs.

#### Evaluative Criteria

The philosophy and purpose statements of the Avionics Maintenance Technology program are published and made available to the staff of the institution and the general public.

Written goals and objectives are available for the Avionics Maintenance Technology program.

Avionics Maintenance Technology program philosophy, purpose, goals, and objectives statements are used by student services personnel to aid in recruiting and placing students.



# FOUNDATIONS (Evaluation)

#### Standard Statement

The philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology program are evaluated.

### **Explanatory Comment**

The evaluation of the Avionics Maintenance Technology program philosophy, purpose, goals, and objectives assists the program in meeting student, community, and employment market needs.

#### **Evaluative Criteria**

Formal evaluation of the philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology program is performed annually and documents input from the program faculty, the administration, and the program advisory committee.

Evaluation of the philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology program is conducted to assure congruence with changing community and employment market needs and Georgia Board of Technical and Adult Education philosophy and purpose statements.

Evaluation of the philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology program assesses congruence with the requirements of the designated accrediting agency(ies).

Evaluation processes are designed to consider state evaluation processes and requirements and to verify that the philosophy, purpose, goals, and objectives of the Aviorics Maintenance Technology program are being fulfilled.

Evaluation of the philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology program results in revision, as needed.



# FOUNDATIONS (Philosophy)

#### Standard Statement

A philosophy statement is developed expressing the beliefs and values that govern the content and conduct of the Avionics Maintenance Technology associate degree program.

### **Explanatory Comment**

A statewide program philosophy statement is developed and provided for the Avionics Maintenance Technology associate degree program. The statewide philosophy statement may be augmented at the local level so that the unique circumstances of the community may be accommodated.

The Avionics Maintenance Technology associate degree program philosophy statement expresses the fundamental educational and occupational principles that guide the instructional process.

#### **Evaluative Criteria**

The Avionics Maintenance Technology associate degree program has a clearly defined, written philosophy statement that is reviewed by the program faculty, the administration, and the program advisory committee.

Any addition to the Avionics Maintenance Technology associate degree program philosophy statement is developed by the program faculty, the administration, and the program advisory committee.

The philosophy of the Avionics Maintenance Technology associate degree program is in accordance with the philosophy of the Georgia Board of Technical and Adult Education and reflects the beliefs, values, and attitudes of the institution, the instructional field, the community, and the employment market.

The philosophy of the Avionics Maintenance Technology associate degree program determines the unique role of the program in meeting the technical educational needs of the students, the community, and the employment market.



The philosophy of the Avionics Maintenance Technology associate degree program reflects a desire to achieve educational excellence.

The philosophy of the Avionics Maintenance Technology associate degree program reflects a commitment to meet the needs of business and industry.

The philosophy of the Avionics Maintenance Technology associate degree program includes a nondiscrimination statement pertaining to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, and economic disadvantage.

The philosophy statement of the Avionics Maintenance Technology associate degree program is approved by the administration of the institution.



#### **PHILOSOPHY**

The basic beliefs, attitudes, and concepts that are the foundation of the Avionics Maintenance Technology associate degree program are expressed in the following statements.

Avionics Maintenance Technology is a program of study which is compatible with the policies of the Georgia Board of Technical and Adult Education and encourages each Avionics Maintenance Technology associate degree program student to benefit and contribute as a partner in the economic development and stability of Georgia. The philosophy of the Avionics Maintenance Technology associate degree program is founded on the value attributed to individual students, the avionics maintenance technology profession, and technical education.

The Avionics Maintenance Technology associate degree program of study is consistent with the philosophy and purpose of the institution. The program provides academic foundations in communications, mathematics, and human relations, as well as technical fundamentals. Program graduates are well grounded in the fundamentals of electrical, electronic, and mechanical theory and application, and are prepared for employment and subsequent upward mobility.

The Avionics Maintenance Technology associate degree program provides the student with the necessary knowledge and skills to adapt to a variety of positions in the rapidly changing avionics maintenance technology field. Important attributes for success of program graduates are critical thinking, problem solving, human relations skills, and the ability to apply technology to work requirements.

The program structure acknowledges individual differences and provides opportunities for students to seek fulfillment of their educational goals. The program does not discriminate on the basis of race, color, national origin, religion, sex, handicapping condition, academic disadvantage, or economic disadvantage.

To assist each student to attain his or her respective potential within the program, both the instructor and the student incur an obligation in the learning process. The instructor is a manager of instructional resources and organizes instruction in a manner which promotes learning. The student assumes responsibility for learning by actively participating in the learning process.



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This is a dynamic field which requires attention to current curriculum and up-to-date instructional equipment. The Avionics Maintenance Technology associate degree program must promote the concept of change as the technology evolves. The need for nurturing the spirit of involvement and lifelong learning is paramount in the field of avionics maintenance technology.



# FOUNDATIONS (Purpose)

#### Standard Statement

A purpose statement delineating the instructional services which the Avionics Maintenance Technology associate degree program provides is developed and implemented.

### **Explanatory Comment**

A statewide purpose statement is developed and provided for the Avionics Maintenance Technology associate degree program. The statewide purpose statement may be augmented at the local level so that the unique circumstances of the community may be accommodated.

A major purpose of the Avionics Maintenance Technology associate degree program is to meet community and employment market needs for education in avionics maintenance technology.

#### Evaluative Criteria

The Avionics Maintenance Technology associate degree program has a clearly defined, written purpose statement that is reviewed by the program faculty, the administration, and the program advisory committee.

Any addition to the Avionics Maintenance Technology associate degree program purpose statement is developed by the program faculty, the administration, and the program advisory committee.

The purpose of the Avionics Maintenance Technology associate degree program is in accordance with the purpose of the Georgia Board of Technical and Adult Education and the institution.

The purpose of the Avionics Maintenance Technology associate degree program reflects the values and beliefs expressed in the program philosophy.

The purpose of the Avionics Maintenance Technology associate degree program includes a nondiscrimination statement pertaining to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, and economic disadvantage.



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The purpose statement of the Avionics Maintenance Technology associate degree program is approved by the administration of the institution.



#### **PURPOSE**

The purpose of the Avionics Maintenance Technology associate degree program is to provide educational opportunities to individuals that will enable them to obtain the knowledge, skills, and attitudes necessary to succeed in the field of avionics maintenance technology.

The Avionics Maintenance Technology associate degree program provides educational opportunities regardless of race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, or economic disadvantage.

The Avionics Maintenance Technology associate degree program is intended to produce graduates who are prepared for employment as avionics technicians. Program graduates are to be competent in the areas required for the Federal Aviation Administration Airframe Mechanics certification. Program graduates are to be competent in the general areas of written and oral communications; algebra, geometry, and trigonometry; and interpersonal relations. Program graduates are to be competent in the fundamentals of aircraft electrical, electronic, hydraulic, pneumatic, and mechanical systems maintenance; and avionics systems theory, application, and troubleshooting.



# FOUNDATIONS (Goals)

#### **Standard Statement**

A program goals statement focuses the efforts of the Avionics Maintenance Technology associate degree program.

#### **Explanatory Comment**

A statewide goals statement is developed and provided for the Avionics Maintenance Technology associate degree program. The statewide program goals statement may be augmented at the local level so that the unique circumstances of the community may be accommodated.

Goals are broad statements of intent that delineate the achievements the Avionics Maintenance Technology associate degree program seeks to attain. Goals are stated in non-quantifiable terms.

#### Evaluative Criteria

The Avionics Maintenance Technology associate degree program has a clearly defined, written goals statement that is reviewed by the program faculty, the administration, and the program advisory committee.

Any addition to the Avionics Maintenance Technology associate degree program goals statement is developed by the program faculty, the administration, and the program advisory committee.

The goals of the Avionics Maintenance Technology associate degree program are in accordance with the philosophy and purpose of the program.

The goals of the Avionics Maintenance Technology associate degree program reflect a desire to provide exemplary occupational/technical education.

The goals of the Avionics Maintenance Technology associate degree program reflect a commitment to assisting students to achieve successful employment in the avionics maintenance technology field.



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The goals of the Avionics Maintenance Technology associate degree program are the basis for the development of program objectives.

The goals of the Avionics Maintenance Technology associate degree program include a nondiscrimination statement pertaining to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, and economic disadvantage.

The goals statement of the Avionics Maintenance Technology associate degree program is approved by the administration of the institution.



# GOALS (Process)

The goals of the Avionics Maintenance Technology associate degree program are to:

- l. Provide education which acknowledges individual differences and respects the right of individuals to seek fulfillment of educational needs.
- 2. Provide an environment which encourages the individual to benefit and contribute as a partner in the economic progress, development, and stability of Georgia.
- 3. Provide education which develops the potential of each student to become a productive, responsible, and upwardly mobile member of society.
- 4. Provide quality avionics maintenance technology education in an atmosphere that fosters interest in and enthusiasm for learning.
- 5. Prepare graduates to function as accountable and responsible members within their field of endeavor.
- 6. Prepare graduates to function as safe and competent practitioners in the field of avionics maintenance technology.
- 7. Prepare program graduates with the highest level of competence possible given the constraints of the interests and ability levels of the individual.
- 8. Provide educational and related services without regard to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, or economic disadvantage.
- 9. Foster employer participation, understanding, and confidence in the instructional process and the competence of Avionics Maintenance Technology associate degree program graduates.



# FOUNDATIONS (Program Objectives)

#### Standard Statement

An objectives statement based on established program goals is developed for the Avionics Maintenance Technology associate degree program.

#### **Explanatory Comment**

A statewide objectives statement is developed and provided for the Avionics Maintenance Technology associate degree program. The statewide program objectives statement may be augmented at the local level so that the unique circumstances of the community may be accommodated.

Program objectives are desired program outcomes stated in measurable, temporal, and operational terms.

#### Evaluative Criteria

The Avionics Maintenance Technology associate degree program has a clearly defined, written objectives statement that is reviewed by the program faculty, the administration, and the program advisory committee.

Any addition to the Avionics Maintenance Technology associate degree program objectives statement is developed by the program faculty, administration, and the program advisory committee.

An essential objective of the Avionics Maintenance Technology associate degree program is to prepare students for successful employment in the field of avionics maintenance technology.

The objectives of the Avionics Maintenance Technology associate degree program stress learning outcomes, efficiency, enrollment, public relations, and other outcomes that impact on program quality.

A major objective of the Avionics Maintenance Technology associate degree program is student achievement of identified exit point competencies.



The objectives of the Avionics Maintenance Technology associate degree program include a nondiscrimination statement pertaining to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, and economic disadvantage.

The objectives statement of the Avionics Maintenance Technology associate degree program is approved by the administration of the institution.



# OBJECTIVES (Process)

The objectives of the Avionics Maintenance Technology associate degree program are to:

- 1. Provide current curriculum, instructional materials, and equipment (in accordance with available funding) which teach knowledge, skills, and attitudes appropriate to industry needs.
- 2. Provide educational facilities which foster learning and provide safe, healthy environments available and accessible to all students who can benefit from the program.
- 3. Provide academic instruction which supports effective learning within the program and which enhances professional performance on the job.
- 4. Provide employability skills which foster work attitudes and work habits that will enable graduates of the program to perform as good employees.
- 5. Nurture the desire for learning so that graduates will pursue their own continuing education as a lifelong endeavor.
- 6. Provide an educational atmosphere which promotes a positive self-image and a sense of personal well-being.
- 7. Provide education that fosters development of good safety habits.
- 8. Provide admission, educational, and placement services without regard to race, color, national origin, religion, sex, age, or handicapping condition.
- 9. Provide information to the public regarding the program that will facilitate recruitment and enrollment of students.
- 10. Promote good public relations via contacts and regular communications with business, industry, and the public sector.
- 11. Promote faculty and student rapport and communications to enhance student success in the program.



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# FOUNDATIONS (Availability)

# Standard Statement

Written philosophy, purpose, goals, and objectives statements for the Avionics Maintenance Technology associate degree program are made available to the staff of the institution and the general public.

## **Explanatory Comment**

Published Avionics Maintenance Technology associate degree program philosophy and purpose statements are important recruitment tools that help students to select programs that meet their needs.

# **Evaluative Criteria**

The philosophy and purpose statements of the Avionics Maintenance Technology associate degree program are published and made available to the staff of the institution and the general public.

Written goals and objectives are available for the Avionics Maintenance Technology associate degree program.

Avionics Maintenance Technology associate degree program philosophy, purpose, goals, and objectives statements are used by student services personnel to aid in recruiting and placing students.



# FOUNDATIONS (Evaluation)

#### Standard Statement

The philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology associate degree program are evaluated.

### **Explanatory Comment**

The evaluation of the Avionics Maintenance Technology associate degree program philosophy, purpose, goals, and objectives assists the program in meeting student, community, and employment market needs.

### Evaluative Criteria

Formal evaluation of the philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology associate degree program is performed annually and documents input from the program faculty, the administration, and the program advisory committee.

Evaluation of the philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology associate degree program is conducted to assure congruence with changing community and employment market needs and Georgia Board of Technical and Adult Education philosophy and purpose statements.

Evaluation of the philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology associate degree program assesses congruence with the requirements of the designated accrediting agency(ies).

Evaluation processes are designed to consider state evaluation processes and requirements and to verify that the philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology associate degree program are being fulfilled.

Evaluation of the philosophy, purpose, goals, and objectives of the Avionics Maintenance Technology associate degree program results in revision, as needed.



# ADMISSIONS (Admission Requirements)

### Standard Statement

Statewide admission requirements are implemented for the Avionics Maintenance Technology program.

## **Explanatory Comment**

Adr sion refers to regular admission into a diploma granting program.

Statewide program admission requirements consider state and national occupational licensing and certifying requirements, where applicable.

The institution develops and implements clearly stated diploma program admissions policies and procedures.

### Evaluative Criteria

The requirements for admission to the Avionics Maintenance Technology program are:

- a) attainment of 16 or more years of age;
- b) documentation of high school graduation or satisfaction of High School Equivalency Certificate requirements;
- c) achievement of the 10th grade level in reading, English, and math as shown on a statistically validated test; and
- d) completion of application and related procedures.

Admission of transfer students to the Avionics Maintenance Technology program is contingent upon their meeting the following requirements:

- a) regular admission and good standing at a regionally accredited FAA approved diploma or degree granting institution; and
- b) proper completion of application and related procedures.



# ADMISSIONS (Provisional Admission Requirements)

### Standard Statement

Statewide provisional admission requirements are implemented for the Avionics Maintenance Technology program.

# **Explanatory Comment**

Provisional admission is granted to qualified students who do not meet the regular admission requirements of the program.

Provisionally admitted students are allowed to take developmental studies courses and/or certain occupational courses as designated in the course sequence standard.

The institution develops and implements clearly stated policies and procedures for entry into diploma programs on a provisional basis.

### Evaluative Criteria

Provisional admission to the Avionics Maintenance Technology program is afforded those students who do not meet program admission requirements but who meet provisional admission requirements.

The requirements for provisional admission to the Avionics Maintenance Technology program are:

- a) attainment of 16 or more years of age;
- b) documentation of high school graduation or satisfaction of High School Equivalency Certificate requirements;
- c) achievement of the 8th grade level in reading, English, and math as shown on a statistically validated test or recommendation by program faculty and designated admissions personnel on the basis of interview and assessment of student potential; and
- d) completion of application and related procedures.

All Avionics Maintenance Technology program students initially admitted on a provisional basis meet regular admission requirements prior to graduation.



Provisionally admitted students whose English, math, and/or reading achievement levels do not meet regular program admission requirements are required to enroll in developmental studies courses approved by the Georgia Board of Technical and Adult Education.



# ADMISSIONS (Recruitment)

#### Standard Statement

The Avionics Maintenance Technology program recruitment materials and practices are in the best interests of the students, institution, community, and employment market.

### **Explanatory Comment**

The recruitment effort makes potential students aware of the services provided by the Avionics Maintenance Technology program and the institution.

The recruitment effort seeks to serve the economic development of the community by affording opportunities to prospective students.

The institution develops and implements a systematic, overall recruitment effort designed to assist students in meeting their occupational needs.

### Evaluative Criteria

The recruitment effort assists in maintaining and/or increasing the Avionics Maintenance Technology program and institution enrollments.

The recruitment effort of the Avionics Maintenance Technology program includes participation in or assistance with:

- a) development and dissemination of informational materials;
- b) recruitment activities with other programs within the institution;
- c) communication with potential students through contact with employers, secondary schools, organizations, the program advisory committee, and others;
- d) promotion of Avionics Maintenance Technology program awareness among individuals and groups; and
- e) consideration of the industrial and business needs of the community and employment market.

All recruitment materials and practices are ethical, equitable, and accurate in the depiction of the institution, the Avionics Maintenance Technology program, and the potential benefits of program completion.



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A written description of the admission requirements and procedures, tuition fees, and other costs of the Avionics Maintenance Technology program is made available to potential students.



# ADMISSIONS (Evaluation and Planning)

#### Standard Statement

An evaluation of the admission requirements of the Avionics Maintenance Technology program is conducted.

### **Explanatory Comment**

The admission requirements of the Avionics Maintenance Technology program are compatible with the admissions policies and procedures of the institution.

### Evaluative Criteria

Avionics Maintenance Technology program admission requirements are evaluated annually to assure compliance with Georgia Board of Technical and Adult Education policies and standards and designated accrediting agency requirements.

The administration, with input from the program faculty and advisory committee, conducts an annual evaluation of Avionics Maintenance Technology program admission requirements to assess their adequacy in meeting the needs of the students, community, and employment market.

The evaluation results are used to modify the admissions procedures of the institution and to suggest Avionics Maintenance Technology program admission changes to the Georgia Board of Technical and Adult Education, as needed.



# ADMISSIONS (Admission Requirements)

#### Standard Statement

Statewide admission requirements are implemented for the Avionics Maintenance Technology associate degree program.

# **Explanatory Comment**

Admission refers to regular admission into a degree granting program.

Statewide program admission requirements consider state and national occupational licensing and certifying requirements, where applicable.

The institution develops and implements clearly stated degree program admissions policies and procedures.

#### Evaluative Criteria

The requirements for admission to the Avionics Maintenance Technology associate degree program are:

- a) attainment of 16 or more years of age;
- b) documentation of high school graduation or satisfaction of High School Equivalency Certificate requirements;
- c) achievement of SAT scores of no less than math 400 and verbal 380 or equivalent scores on a statistically validated test; and
- d) completion of application and related procedures.

Admission of transfer students to the Avionics Maintenance Technology associate degree program is contingent upon their meeting the following requirements:

- a) regular admission and good standing at a regionally accredited diploma or degree granting institution; and
- b) proper completion of application and related procedures.



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# ADMISSIONS (Provisional Admission Requirements)

### Standard Statement

Statewide provisional admission requirements are implemented for the Avionics Maintenance Technology associate degree program.

# **Explanatory Comment**

Provisional admission is granted to qualified students who do not meet the regular admission requirements of the program.

Provisionally admitted students are allowed to take developmental studies courses and/or pre-tech courses and certain occupational courses as designated in the course sequence standard.

The institution develops and implements clearly stated policies and procedures for entry into degree programs on a provisional basis.

#### Evaluative Criteria

Provisional admission to the Avionics Maintenance Technology associate degree program is afforded those students who do not meet program admission requirements but who meet provisional admission requirements.

The requirements for provisional admission to the Avionics Maintenance Technology associate degree program are:

- a) attainment of 16 or more years of age;
- b) documentation of high school graduation <u>or</u> satisfaction of High School Equivalency Certificate requirements; <u>or</u> recommendation by program faculty and designated admissions personnel on the basis of interview and assessment of student potential; and
- c) completion of application and related procedures.

All Avionics Maintenance Technology associate degree program students initially admitted on a provisional basis meet regular admission requirements prior to graduation.



Provisionally admitted students whose English, math, and/or reading achievement levels do not meet regular program admission requirements are required to enroll in developmental studies courses approved by the Georgia Board of Technical and Adult Education.



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# ADMISSIONS (Recruitment)

### Standard Statement

The Avionics Maintenance Technology associate degree program recruitment materials and practices are in the best interests of the students, institution, community, and employment market.

## **Explanatory Comment**

The recruitment effort makes potential students aware of the services provided by the Avionics Maintenance Technology associate degree program and the institution.

The recruitment effort seeks to serve the economic development of the community by affording opportunities to prospective students.

The institution develops and implements a systematic, overall recruitment effort designed to assist students in meeting their occupational needs.

### Evaluative Criteria

The recruitment effort assists in maintaining and/or increasing the Avionics Maintenance Technology associate degree program and institution enrollments.

The recruitment effort of the Avionics Maintenance Technology associate degree program includes participation in or assistance with:

- a) development and dissemination of informational materials;
- b) recruitment activities with other programs within the institution;
- c) communication with potential students through contact with employers, secondary schools, organizations, the program advisory committee, and others;
- d) promotion of Avionics Maintenance Technology associate degree program awareness among individuals and groups; and
- e) consideration of the industrial and business needs of the community and employment market.

All recruitment materials and practices are ethical, equitable, and accurate in the depiction of the institution, the Avionics Maintenance Technology associate degree program, and the potential benefits of program completion.



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A written description of the admission requirements and procedures, tuition fees, and other costs of the Avionics Maintenance Technology associate degree program is made available to potential students.



# ADMISSIONS (Evaluation and Planning)

### Standard Statement

An evaluation of the admission requirements of the Avionics Maintenance Technology associate degree program is conducted.

### **Explanatory Comment**

The admission requirements of the Avionics Maintenance Technology associate degree program are compatible with the admissions policies and procedures of the institution.

### **Evaluative Criteria**

Avionics Maintenance Technology associate degree program admission requirements are evaluated annually to assure compliance with Georgia Board of Technical and Adult Education policies and standards and designated accrediting agency requirements.

The administration, with input from the program faculty and advisory committee, conducts an annual evaluation of Avionics Maintenance Technology associate degree program admission requirements to assess their adequacy in meeting the needs of the students, community, and employment market.

The evaluation results are used to modify the admissions procedures of the institution and to suggest Avionics Maintenance Technology associate degree program admission changes to the Georgia Board of Technical and Adult Education, as needed.



# PROGRAM STRUCTURE (Curriculum Design)

### Standard Statement

The curriculum of the Avionics Maintenance Technology program includes four categories of instruction: general core courses, fundamental occupational/technical courses, specific occupational/technical courses, and elective courses.

# **Explanatory Comment**

General core courses and fundamental occupational/technical courses provide the academic and occupational/technical background that supports the specific occupational/technical and elective courses.

#### Evaluative Criteria

The Avionics Maintenance Technology program requires student completion of general core courses such as math, language skills, and other courses required by the Georgia Board of Technical and Adult Education.

The Avionics Maintenance Technology program requires student completion of fundamental occupational/technical courses in introductory concepts, principles, and technologies that provide the foundations for the given occupation and related fields.

The Avionics Maintenance Technology program requires student completion of specific technical courses that build on the foundations provided in the fundamental occupational/technical courses.

Avionics Maintenance Technology program students are offered the opportunity to take state-approved elective courses in order to develop their individual interests.



# PROGRAM STRUCTURE (Program Numbering System)

### Standard Statement

A Classification of Instructional Programs (CIP) code is applied to the Avionics Maintenance Technology program.

# **Explanatory Comment**

Assignment of a statewide CIP code to every diploma/degree program is the basis for consistent program identification.

### Evaluative Criteria

The Avionics Maintenance Technology program is assigned a (PGM) CIP code of (PGM) 47.0692 and is consistent with all other programs throughout the state which have the same CIP code.



# PROGRAM STRUCTURE (Program Consistency)

# Standard Statement

The Avionics Maintenance Technology program utilizes essential course components consistent with statewide program requirements.

# **Explanatory Comment**

Programs assigned an identical (PGM) CIP code are consistent statewide.

## Evaluative Criteria

The Avionics Maintenance Technology program is assigned a (PGM) CIP code of (PGM) 47.0692 and utilizes essential components designated for that program number statewide. Program components include, but are not limited to:

# a) Program Title

Avionics Maintenance Technology

# b) Program Description

The Avionics Maintenance Technology program is a sequence of courses designed to prepare students to work in the field of avionics maintenance technology. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of aircraft and avionics theory and practical application necessary for successful employment. Program graduates receive an Avionics Maintenance Technology diploma which qualifies them as avionics technicians.



c)	Ess	Essential Courses				
	1)	Essential General Core Courses				
		ENG			5	
		MAT	103	Algebraic Concepts	5	
		MAT	104	Geometry and Trigonometry	5	
		PSY	100			
				Development	3	
	2)	Essent	<u>47</u>			
		AMT	101	Aircraft Maintenance Regulations	3	
		<b>AMT</b>	102		13	
		<b>AMT</b>			7	
		<b>AMT</b>	107	Assembly and Rigging	6	
		<b>AMT</b>	121	Aviation Physics	6 3 6	
				Basic Electronics	6	
				Advanced Electronics	6	
		CMP	101	Introduction to Microcomputers	3	
	3)	Essent	72			
		AMT	201	Fluid Power and Landing Gear Systems	9	
		<b>AMT</b>	202	Utility Systems	10	
		AMT		Aircraft Electrical and Navigation Systems	9	
				Microprocessors	6	
		AVT	105	Avionics Maintenance Practices	5	
		AVT	106	Aircraft Logic Systems Aircraft Communication Systems	6	
		AVT	107	Aircraft Communication Systems	7	
		AVT	108	Navigation Systems	7	
		AVT	109	Flight Director and Autopilot Systems	7	
		XXX	XXX	Electives	6	

# d) Program Final Exit Point

Avionics technician

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e) Credits Required for Graduation

137 minimum quarter hour credits required for graduation



# PROGRAM STRUCTURE (Exit Points)

### Standard Statement

The Avionics Maintenance Technology program faculty documents student attainment of identified exit points.

# **Explanatory Comment**

Exit points are the points within the program at which occupational competencies are achieved to qualify students for an entry level position in their field.

### **Evaluative Criteria**

The faculty of the Avionics Maintenance Technology program monitors, evaluates, and records student progress towards achieving exit point competency levels.

The final Avionics Maintenance Technology program exit point, documented by a diploma, is avionics technician.

The institution documents completion of Avionics Maintenance Technology exit points with a transcript.

Graduation from the Avionics Maintenance Technology program is dependent upon meeting the requirements of the Georgia Board of Technical and Adult Education.



# PROGRAM STRUCTURE (Credentials)

#### Standard Statement

The achievement of Avionics Maintenance Technology program graduates and leavers is documented by the institution.

### **Explanatory Comment**

A program graduate is a student who successfully fulfills all program requirements. A program leaver is a student who exits from the program prior to completion of all program requirements.

Course description documents are based on the course title, the essential course description, the essential competency areas taught, and the number of credits awarded as detailed in the program-specific standards and the listing of state-approved electives.

#### Evaluative Criteria

The institution grants each Avionics Maintenance Technology program graduate a diploma certifying satisfaction of program requirements.

Upon request, each Avionics Maintenance Technology program graduate is provided a transcript and course description document detailing courses taken, grades, credits earned, and credential awarded.

Upon request, each Avionics Maintenance Technology program leaver who has completed one or more courses is provided a transcript and course description document detailing courses taken, grades, and credits earned.

Upon request, each Avionics Maintenance Technology program leaver who has not completed an entire course is provided a transcript and course description document detailing the course entered and withdrawal.



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# PROGRAM STRUCTURE (Course Code)

#### **Standard Statement**

A statewide course identification code is applied to each Avionics Maintenance Technology course.

## **Explanatory Comment**

An alphanumeric identification code is assigned to each course.

All Georgia Board of Technical and Adult Education approved courses are included in the course identification coding system.

### Evaluative Criteria

Each course is assigned an alphanumeric descriptor that serves as the statewide course identification code.

The following list contains the Georgia Board of Technical and Adult Education designated course titles and course identification codes of the Avionics Maintenance Technology program.

AMT AMT	101 102	Aircraft Maintenance Regulations Aircraft Applied Sciences
<b>AMT</b>	105	Sheet Metal Structures
<b>AMT</b>	107	Assembly and Rigging
<b>AMT</b>	121	Aviation Physics
<b>AMT</b>	201	Fluid Power and Landing Gear Systems
<b>AMT</b>	202	Utility Systems
<b>AMT</b>	203	Aircraft Electrical and Navigation Systems
AVT	101	Basic Electronics
AVT	103	Advanced Electronics
AVT	104	Microprocessors
AVT	105	Avionics Maintenance Practices
AVT	106	Aircraft Logic Systems
AVT	107	Aircraft Communication Systems



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AVT	108	Navigation Systems
AVT	109	Flight Director and Autopilot Systems
<b>CMP</b>	101	Introduction to Microcomputers
<b>ENG</b>	101	English
MAT	103	Aigebraic Concepts
MAT	104	Geometry and Trigonometry
PSY	100	Interpersonal Relations and Professional Development



# PROGRAM STRUCTURE (Course Consistency)

### Standard Statement

Courses assigned a given course identification code are consistent.

### **Explanatory Comment**

Courses assigned the same course identification code are consistent throughout the state.

One quarter equals a minimum of 50 instructional days. One contact hour equals a minimum of 50 minutes of instruction.

One (l) quarter hour credit is defined as follows:

- a) class One contact hour of class per week for the duration of a quarter equals one quarter hour credit; class is defined as instruction which emphasizes group or individualized classroom learning.
- b) demonstration laboratory (D.Lab) Two contact hours of demonstration laboratory per week for the duration of a quarter equals one quarter hour credit; demonstration laboratory is defined as instruction which emphasizes teacher assisted learning activities.
- c) practical performance laboratory (P.Lab) Three contact hours of practical performance laboratory per week for the duration of a quarter equals one quarter hour credit; practical performance laboratory is defined as instruction which emphasizes structured activities requiring the application and practice of occupational competencies.
- d) occupation-based instruction (O.B.I.) Three contact hours of occupation-based instruction per week for the duration of a quarter equals one quarter hour credit; occupation-based instruction is defined as instruction which emphasizes supervised work-experience activities requiring the application of occupational competencies.



### Evaluative Criteria

Each course assigned a given course identification code utilizes certain components identical to those designated for that course identification code statewide.

Components designated for each course identification code include:

- a) course title;
- b) essential course description;
- c) essential competency areas taught; and
- d) number of quarter hour credits awarded for course completion.



Courses in the Avionics Maintenance Technology program include:

### **AMT 101 - AIRCRAFT MAINTENANCE REGULATIONS**

Provides students with the knowledge and skills necessary to select and use FAA and manufacturers' specifications, data sheets, manuals, related regulations, and technical data; write descriptions of aircraft conditions, record work performed, complete maintenance forms and inspection reports; and learn to interpret federal regulations regarding mechanic privileges and limitations. Topics include: maintenance publications, forms and records, and mechanic privileges and limitations.

Competency	Areas
------------	-------

**Hours** 

Maintenance PublicationsForms and Records

Class/Week - 2 D.Lab/Week - 2

- Mechanic Privileges and Limitations

Credit - 3

Prerequisite: Provisional admission

### **AMT 102 - AIRCPAFT APPLIED SCIENCES**

Provides students with the fundamentals of aircraft servicing methods and ground operations. Topics include: cleaning and corrosion control, fluid line fabrication and installation, aircraft hardware and materials, aircraft drawing, and weight and balance.

### Competency Areas

**Hours** 

- Cleaning and Corrosion Control

- Fluid Line Fabrication and Installation

- Aircraft Hardware and Materials

- Aircraft Drawings

- Weighing and Balancing

Prerequisite: Provisional admission

Class/Week - 10 P.Lab/Week - 10 Credit - 13



### **AMT 105 - SHEET METAL STRUCTURES**

Provides a study of metal structures of welded tube and riveted sheet monocoque or semi-monocoque. Topics include: identification, selection, and installation of rivets and other mechanical fasteners in stressed skin construction; inspection and repair of sheet metal and bonded structures; sheet metal formation; and inspection and repair of plastics, honeycomb, and laminated structures as well as windows, doors, and interior furnishings.

# Competency Areas

- Basic Sheet Metal Structures
- Conventional Rivets
- Special Rivets and Fasteners
- Repair of Sheet Metal Structures
- Bonded Structures
- Sheet Metal Formation
- Plastics, Honeycomb, and Laminated Structures
- Windows, Doors, and Interior Furnishings

Prerequisite: Provisional admission

## **Hours**

Class/Week - 5 P.Lab/Week - 7 Credit - 7



### **AMT 107 - ASSEMBLY AND RIGGING**

Provides a study of aircraft configurations. Topics include: proper nomenclature applicable to rotary and fixed wing aircraft; use of hand tools and equipment for assembly and rigging; aircraft assembly, alignment of aircraft structures, balancing and rigging of control surfaces, and jacking of various aircraft; and airframe conformity and airworthiness inspection.

**Hours** 

Class/Week - 5

P.Lab/Week - 5

Credit - 6

### Competency Areas

# - Hand Tools and Equipment for Assembly and Rigging

- Fixed Wing Aircraft Rigging

- Aircraft Assembly

- Rotary Wing Aircraft Rigging

- Alignment of Structures

- Balance and Rigging of Movable Control Surfaces

- Jacking

- Airframe Conformity and Airworthiness Inspection

Prerequisite: Program admission



### **AMT 121 - AVIATION PHYSICS**

Provides students with an introduction to the theory and application of physics to aerospace vehicles and their subsystems. Topics include: inclined plane, lever, and pulley; origin and transmission of sound; relationship between temperature and heat; relationships of pressure, temperature, and air mass volume; laws of confined gases; Bernoulli's Principle; relationship of air density to temperature and humidity and the effect on aircraft performance; centrifugal and centripetal force; and physical factors affecting engine output.

### Competency Areas

- Temperature and Heat Relationships
- Pressure, Temperature, and Volume of Air Mass Relationships
- Factors Affecting Air Pressure on Air Foil
- Physical Factors Affecting Engine Output
- Pressure, Area, and Force Relationships
- Inclined Plane, Lever, and Pulley
- Origin of Sound
- Centrifugal and Centripetal Force

Prerequisite/Corequisite: AMT 102

### **Hours**

Class/Week - 3 Lab/Week - 0 Credit - 3



### AMT 201 - FLUID POWER AND LANDING GEAR SYSTEMS

Provides a study of the principles of generation, distribution, and management of hydraulic and pneumatic power throughout the aircraft structure. Topics include: wheels, brakes, tires, and fixed and retractable landing gear systems; position indicating and warning systems; steering systems; hydraulic fluids and laws of physics; and hydraulic and pneumatic power systems.

# Competency Areas

- Landing Gear Systems
- Brake Systems
- Wheels and Tires
- Steering Systems
- Hydraulic Fluids and Laws of Physics
- Hydraulic and Pneumatic Power System Components
- Hydraulic and Pneumatic Power Systems
- Position and Warning Systems

Prerequisite: Program admission

### AMT 202 - UTILITY SYSTEMS

Provides a study of the heating, cooling, ventilation, and pressurization of the aircraft interior and the protection of exterior surfaces from ice accumulation. Topics include: fire detection and extinguishing systems; fuel storage, transfer, distribution, and dump systems; aircraft flight instrument systems; cabin atmosphere systems; and ice and rain control systems.

# Competency Areas

- Cabin Atmosphere Control Systems
- Ice and Rain Control Systems
- Fire Protection Systems
- Aircraft Fuel Systems
- Aircraft Instrument Systems

Prerequisite: Program admission

# Hours

**Hours** 

Class/Week - 7

P.Lab/Week - 8

Credit - 9

Class/Week - 8

P.Lab/Week - 7

Credit - 10

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### AMT 203 - AIRCRAFT ELECTRICAL AND NAVIGATION SYSTEMS

Provides a study of aircraft electrical, communication, and navigation systems. Topics include: circuit protection devices, switches and ratings; proof of current requirements; wire requirements; inverter systems; alternators; aircraft voltage systems; AC generators; and transformer-rectifier principles. Additional topics are radio and transmitter principles; instrument landing systems; emergency locator transmitters; and installation procedures.

### Competency Areas

### Hours

- Airframe Electrical Wiring, Controls, Switches Indicators, and Protective Devices

Class/Week - 7 P.Lab/Week - 8

- AC and DC Electrical Systems

Credit - 9

- Aircraft Electrical System Components

- Autopilot and Approach Control Systems

- Aircraft Electronic Communication and Navigation Systems

- Antenna and Electronic Equipment Installations

Prerequisite: AVT 103



### **AVT 101 - BASIC ELECTRONICS**

Provides a review of the basic theory and application of electronics with a primary focus on use in avionic systems. Topics include: atomic theory, DC circuits, AC circuits, alternating current, inductance and transformers, capacitance, resonance and filters, vacuum tubes, and solid state devices.

### Competency Areas

- Atomic Theory
- DC Circuits
- AC Circuits
- Alternating Current
- Inductance and Transformers
- Capacitance
- Resonance and Filters
- Vacuum Tubes
- Solid State Devices

Prerequisite: MAT 103 Corequisite: MAT 104

# **Hours**

Class/Week - 5 D.Lab/Week - 3 P.Lab/Week - 2 Credit - 6



### **AVT 103 - ADVANCED ELECTRONICS**

Introduces the theory and application of radio frequency transmission and reception. Topics include: power supplies, measuring devices, oscillators, amplifiers, transmitters, amplitude modulation, AM receivers, frequency modulation, and antenna systems.

### Competency Areas

- Power Supplies
- Measuring Devices
- Oscillators
- Amplifiers
- Transmitters
- Amplitude Modulation
- AM Receivers
- Frequency Modulation
- Antenna Systems

Prerequisite: AVT 101

#### **Hours**

Class/Week - 5

D.Lab/Week - 3

P.Lab/Week - 2

Credit - 6

# **AVT 104 - MICROPROCESSORS**

Introduces the theory and application of microprocessors with a primary focus on their use in avionic systems. Topics include: numbering system, logic gates, Boolean algebra, flip-flops, and registers and counters.

#### Competency Areas

- Numbering System
- Logic Gates
- Boolean Algebra
- Flip-Flops
- Registers and Counters

Prerequisite: AVT 101

# Hours

Class/Week - 5

D.Lab/Week - 3

P.Lab/Week - 2

Credit - 6





# **AVT 105 - AVIONICS MAINTENANCE PRACTICES**

Provides practical experience in maintaining avionics systems. Topics include: construction of solid state circuits, use of test instruments, calibrating systems, component removal techniques, repair procedures, and troubleshooting techniques.

# Competency Areas

### **Hours**

- Solder/Solderless Connecting	Class/Week - 3
- Use of Test Instruments	P.Lab/Week - 7
- Component Installation/Removal Techniques	Credit - 5

- Repair Procedures

- Troubleshooting Techniques

Prerequisite: AVT 101

## <u>AVT 106 - AIRCRAFT LOGIC SYSTEMS</u>

Focuses on microprocessor based computers used in avionics systems. Topics include: memory, mass storage, computer systems, data bases, and logic systems repair procedures.

### Competency Areas

### **Hours**

- Memory	Class/Week - 5
- Mass Storage	D.Lab/Week - 3
- Computer Systems	P.Lab/Week - 2
- Data Bases	Credit - 6
- Logic Systems Repair Procedures	

Prerequisite/Corequisite: AVT 104



#### **AVT 107 - AIRCRAFT COMMUNICATION SYSTEMS**

Continues the study of avionics maintenance practices with emphasis on aircraft communication systems. Topics include: component operation, component location, integration, analysis, maintenance, and ACARS.

#### Competency Areas

- ACARS

#### **Hours**

- Component Operation	Class/Week - 6
- Component Location	D.Lab/Week - 2
- Integration	P.Lab/Week - 2
- Analysis	Credit - 7
- Maintenance	

Prerequisite/Corequisite: AVT 104

#### **AVT 108 - NAVIGATION SYSTEMS**

Continues the study of avionics maintenance practices with emphasis on aircraft navigational systems. Topics include: bridges and monitors, synchros, gyros, and navigation systems.

#### Competency Areas

#### **Hours**

- Bridges and Monitors	Class/Week - 6
- Synchros	D.Lab/Week - 2
- Gyros	P.Lab/Week - 2
- Navigation Systems	Credit - 7

Prerequisite/Corequisite: AVT 104



#### **AVT 109 - FLIGHT DIRECTOR AND AUTOPILOT SYSTEMS**

Continues the study of avionics maintenance practices with emphasis on flight director and autopilot systems. Topics include: flight director systems, and autopilot systems, avionics line maintenance test equipment.

Competency Areas	Houis
<ul><li>Flight Director Systems</li><li>Autopilot Systems</li><li>Avionics Line Maintenance Test Equipment</li></ul>	Class/Week - 6 D.Lab/Week - 2 P.Lab/Week - 2 Credit - 7

Prerequisite/Corequisite: AVT 108

#### CMP 101 - INTRODUCTION TO MICROCOMPUTERS

Introduces fundamental concepts and operations necessary to utilize microcomputers. Emphasis is placed on basic functions and familiarity with computer use. Topics include: computer terminology; computer operating systems; data storage; file management; equipment care and operation; and an introduction to word processing, database, and spreadsheet applications.

#### Competency Areas

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- Computer Terminology
- Disk Operating Systems
- Data Storage
- File Management
- Hardware and Software Care and Operation
- Introductory Word Processing, Database, and Spreadsheet Applications

Prerequisite: Provisional admission



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Class/Week - 1 D.Lab/Week - 4 Credit - 3



#### **ENG 101 - ENGLISH**

Emphasizes the development and improvement of written and oral communication abilities. Topics include: analysis of writing techniques used in selected readings, writing practice, editing and proofreading, research skills, and oral presentation skills. Homework assignments reinforce classroom learning.

#### Competency Areas

#### **Hours**

- Analysis of Writing Techniques Used in Selected Readings

Class/Week - 5 Lab/Week - 0

- Writing Practice

Credit - 5

- Editing and Proofreading

- Research Skills

- Oral Presentation Skills

Prerequisite: Program admission level English and reading competency

#### **MAT 103 - ALGEBRAIC CONCEPTS**

Introduces concepts and operations which can be applied to the study of algebra. Topics include: a review of arithmetic, signed numbers, order of operations, unknowns and variables, algebraic expressions, equations and formulas, and graphs. Class includes lecture, applications, and homework to reinforce learning.

#### Competency Areas

#### **Hours**

Basic Mathematical ConceptsBasic Algebraic Concepts

Class/Week - 5 Lab/Week - 0 Credit - 5

Prerequisite: Program admission level math competency



#### MAT 104 - GEOMETRY AND TRIGONOMETRY

Emphasizes the development of algebraic concepts and introduces geometric and trigonometric concepts. Topics include: exponents, algebraic fractions, higher order equations, functions, linear geometry, two dimensional geometry, three dimensional geometry, and trigonometric functions. Class includes lectures, applications, and homework to reinforce learning.

Competency	Areas
COMPOSSIVE	1 XI Cas

# Algebraic OperationsGeometric FormulasTrigonometric Functions

Prerequisite: MAT 103

#### **Hours**

Class/Week - 5 Lab/Week - 0 Credit - 5

#### PSY 100 - INTERPERSONAL RELATIONS AND PROFESSIONAL DEVELOPMENT

Provides a study of human relations and professional development in today's rapidly changing world that prepares students for living and working in a complex society. Topics include: personal skills required for an understanding of self and others; projecting a professional image; job acquisition skills such as conducting a job search, interviewing techniques, job application, and resume preparation; desirable job performance skills; and desirable attitudes necessary for job retention and advancement.

#### Competency Areas

- Human Relations Skills- Job Acquisition Skills
- Job Retention Skills
- Job Advancement Skills
- Professional Image Skills

Prerequisite: Provisional admission

#### **Hours**

Class/Week - 3 Lab/Week - 0 Credit - 3



# PROGRAM STRUCTURE (Course Sequence)

#### Standard Statement

The Avionics Maintenance Technology program requires students to progress through the four instructional course categories in a developmentally valid sequence.

#### **Explanatory Comment**

The four instructional course categories are: general core courses, fundamental occupational/technical courses, specific occupational/technical courses, and elective courses.

A developmentally valid instructional sequence is one in which the student acquires prerequisite knowledge and skills before progressing to more advanced studies.

#### **Evaluative Criteria**

The Avionics Maintenance Technology program requires students to complete prerequisite courses prior to enrolling in subsequent courses.

Provisions are made for Avionics Maintenance Technology program students to exempt courses in which they are competent.

The Avionics Maintenance Technology program complies with the required provisional admission, program admission, and/or program admission level competency prerequisites listed below.

The Avionics Maintenance Technology program reflects the suggested course prerequisites and/or corequisites listed below.

(In the list below prerequisites are indicated by [P], corequisites are indicated by [C], and prerequisites/corequisites are indicated by [P/C].)

<u>Courses</u> <u>Sequence</u>

AMT 101 Aircraft Maintenance Regulations [P] Provisional admission





AMT	102	Aircraft Applied Sciences	[P] Provisional admission
AMT			[P] Provisional admission
AMT	107	Assembly and Rigging	[P] Program admission
AMT	121	Aviation Physics	[P/C] AMT 102
AMT	201	Fluid Power and Landing Gear Systems	[P] Program admission
AMT	202	Utility Systems	[P] Program admission
AMT	203	Aircraft Electrical and Navigation	<del>-</del>
		Systems	[P] AVT 103
AVT	101	Basic Electronics	[P] MAT 103
			[C] MAT 104
AVT		Advanced Electronics	[P] AVT 101
AVT		Microprocessors	[P] AVT 101
AVT		Avionics Maintenance Practices	[P] AVT 101
		Aircraft Logic Systems	[P/C] AVT 104
AVT		Aircraft Communication Systems	[P/C] AVT 104
AVT		Navigation Systems	[P/C] AVT 104
		Flight Director and Autopilot Systems	[P/C] AVT 108
CMP			[P] Provisional admission
ENG	101	English	[P] Program admission
			level English and reading competency
MAT	103	Algebraic Concepts	[P] Program admission
			level math
MAΓ	104	Geometry and Trigonometry	competency [P] MAT 103
PSY	100	Interpersonal Relations and Professional	[P] MAT 103
	100	Development	[P] Provisional admission
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# PROGRAM STRUCTURE (Electives)

#### Standard Statement

Electives are made available for the Avionics Maintenance Technology program.

#### **Explanatory Comment**

Avionics Maintenance Technology program students are provided opportunities to enroll in state-approved elective courses. Elective courses utilize the following components: course title, essential course description, essential competency areas, and number of credits awarded for course completion.

Required courses for a diploma program are available to other diploma programs as elective courses.

#### Evaluative Criteria

Electives are established utilizing the following process:

- a) The administration of the institution, the program faculty, and the program advisory committee cooperate in establishing and utilizing a system to recommend needed and feasible elective courses;
- b) The administration of the institution, the program faculty, and the program advisory committee communicate with the statewide program technical committee and appropriate staff of the Georgia Department of Technical and Adult Education concerning the proposed elective(s);
- c) The administration of the institution, the program faculty, and the program advisory committee consider revisions and prepare a final elective course proposal;
- d) The administration of the institution presents the elective course proposal to the appropriate staff of the Georgia Department of Technical and Adult Education;
- e) The staff of the Georgia Department of Technical and Adult Education reviews the proposal using its established criteria for evaluating elective courses.

Electives are made available for the Avionics Maintenance Technology program and elective course work is included in the requirements for program graduation.



# PROGRAM STRUCTURE (Course Transferability)

#### Standard Statement

Avionics Maintenance Technology program courses are transferable on the basis of their course identification code.

#### **Explanatory Comment**

Courses assigned identical course identification codes include consistent essential competency areas; therefore, resultant credits are guaranteed transferability between programs and institutions under the jurisdiction of the Georgia Board of Technical and Adult Education.

Courses that do not have an assigned course identification code but include similar essential competency areas are selectively transferable.

#### Evaluative Criteria

Avionics Maintenance Technology program courses assigned designated course identification codes are transferable between programs and institutions under the jurisdiction of the Georgia Board of Technical and Adult Education.

Courses taken outside the Georgia Technical and Adult Education system are selectively accepted for transfer on the basis of similarity in competency areas as determined by the Avionics Maintenance Technology program faculty and admissions officers.

Only those courses in which a grade of C or better was awarded are transferable.



# PROGRAM STRUCTURE (Curriculum Design)

#### Standard Statement

The curriculum of the Avionics Maintenance Technology associate degree program includes four categories of instruction: general core courses, fundamental occupational/technical courses, specific occupational/technical courses, and elective courses.

#### **Explanatory Comment**

General core courses and fundamental technical courses provide the academic and occuplational/technical background that supports the specific occupational/technical and elective courses.

#### Evaluative Criteria

The Avionics Maintenance Technology associate degree program requires student completion of general core courses such as math, language skills, and other courses required by the Georgia Board of Technical and Adult Education.

The Avionics Maintenance Technology associate degree program requires student completion of fundamental occupational/technical courses in introductory concepts, principles, and technologies that provide the foundations for the given occupation and related fields.

The Avionics Maintenance Technology associate degree program requires student completion of specific occupational/technical courses that build on the foundations provided in the fundamental technical courses.

Avionics Maintenance Technology associate degree program students are offered the opportunity to take state-approved elective courses in order to develop their individual interests.



#### PROGRAM STRUCTURE (Program Numbering System)

#### Standard Statement

A Classification of Instructional Programs (CIP) code is applied to the Avionics Maintenance Technology associate degree program.

#### **Explanatory Comment**

Assignment of a statewide CIP code to every diploma/degree program is the basis for consistent program identification.

#### Evaluative Criteria

The Avionics Maintenance Technology associate degree program is assigned a (PGM) CIP code of (PGM) 47.0692 and is consistent with all other programs throughout the state which have the same CIP code.



# PROGRAM STRUCTURE (Program Consistency)

#### **Standard Statement**

The Avionics Maintenance Technology associate degree program utilizes essential course components consistent with statewide program requirements.

#### **Explanatory Comment**

Programs assigned an identical (PGM) CIP code are consistent statewide.

#### Evaluative Criteria

The Avionics Maintenance Technology associate degree program is assigned a (PGM) CIP code of (PGM) 47.0692 and utilizes essential components designated for that program number statewide. Program components include, but are not limited to:

#### a) Program Title

Avionics Maintenance Technology, associate degree

### b) Program Description

The Avionics Maintenance Technology assoicate degree program is a sequence of courses designed to prepare students to work in the field of avionics maintenance technology. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of aircraft and avionics theory and practical application necessary for successful employment. Program graduates receive an Avionics Maintenance Technology associate degree which qualifies them as avionics technicians.



c)	Ess	ential C	Course	<u>.</u>	Credits
	1)	Essent	ial Ge	eneral Core Courses	<u>25</u>
		ENG	191	Composition	5
		MAT	191	College Algebra	5
		MAT	193	College Trigonometry	5 5 5
		PHY	190	Introductory Physics	5
		PSY	191	Introductory Psychology	
		<u>Q</u> ]	<u>R</u>		
		ECO	191	Principles of Economics	5
	2)	Essent	ial Fu	indamental Technical Courses	<u>47</u>
		AMT	101	Aircraft Maintenance Regulations	3
		<b>AMT</b>	102		13
		<b>AMT</b>	105	• •	7
		<b>AMT</b>	107	Assembly and Rigging	6
		<b>AMT</b>	121	Aviation Physics	3
				Basic Electronics	6
		AVT		Advanced Electronics	3 6 6 3
		CMP	101	Introduction to Microcomputers	3
	3)	Essent	ial Sp	pecific Technical Courses	<u>66</u>
		AMT	201	Fluid Power and Landing Gear Systems	9
		<b>AMT</b>	202	Utility Systems	10
		<b>AMT</b>	203	Aircraft Electrical and Navigation Systems	9
		AVT	104	Microprocessors	6
		AVT	105	Avionics Maintenance Practices	5
		AVT	106	Aircraft Logic Systems	5 6
		AVT	107		7
		AVT	108	Navigation Systems	7
		AVT	109	Flight Director and Autopilot Systems	7



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	4) Elective Courses	6
	XXX xxx Electives XXX xxx Electives	3
d)	Program Final Exit Point	
	Avionics technician, associate degree level	
e)	Credits Required for Graduation	
	144 minimum quarter hour credits required for graduation	



# PROGRAM STRUCTURE (Exit Points)

#### Standard Statement

The Avionics Maintenance Technology associate degree program faculty documents student attainment of the identified exit point.

#### **Explanatory Comment**

An exit point is the point at which occupational competencies are achieved to qualify scadents for an entry level position in their field.

#### **Evaluative Criteria**

The faculty of the Avionics Maintenance Technology associate degree program monitors, evaluates, and records student progress towards achieving the exit point competency level.

The final Avionics Maintenance Technology associate degree program exit point, documented by a degree, is avionics technician.

The institution documents completion of the Avionics Maintenance Technology exit point with a transcript.

Graduation from the Avionics Maintenance Technology associate degree program is dependent upon meeting the requirements of the Georgia Board of Technical and Adult Education.



# PROGRAM STRUCTURE (Credentials)

#### Standard Statement

The achievement of Avionics Maintenance Technology associate degree program graduates and leavers is documented by the institution.

#### **Explanatory Comment**

A program graduate is a student who successfully fulfills all program requirements. A program leaver is a student who exits from the program prior to completion of all program requirements.

Course description documents are based on the course title, the essential course description, the essential competency areas taught, and the number of credits awarded as detailed in the program-specific standards and the listing of state-approved electives.

#### Evaluative Criteria

The institution grants each Avionics Maintenance Technology associate degree program graduate a diploma certifying satisfaction of program requirements.

Upon request, each Avionics Maintenance Technology associate degree program graduate is provided a transcript and course description document detailing courses taken, grades, credits earned, and credential awarded.

Upon request, each Avionics Maintenance Technology associate degree program leaver who has completed one or more courses is provided a transcript and course description document detailing courses taken, grades, and credits earned.

Upon request, each Avionics Maintenance Technology associate degree program leaver who has not completed an entire course is provided a transcript and course description document detailing the course entered and withdrawal.



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# PROGRAM STRUCTURE (Course Code)

#### Standard Statement

A statewide course identification code is applied to each Avionics Maintenance Technology course.

#### **Explanatory Comment**

An alphanumeric identification code is assigned to each course.

All Georgia Board of Technical and Adult Education approved courses are included in the course identification coding system.

#### **Evaluative Criteria**

Each course is assigned an alphanumeric descriptor that serves as the statewide course identification code.

The following list contains the Georgia Board of Technical and Adult Education designated course titles and course identification codes of the Avionics Maintenance Technology associate degree program.

101	Aircraft Maintanana Damlatiana
	Aircraft Maintenance Regulations
102	Aircraft Applied Sciences
105	Sheet Metal Structures
107	Assembly and Rigging
121	Aviation Physics
201	Fluid Power and Landing Gear Systems
202	Utility Systems
203	Aircraft Electrical and Navigation Systems
101	Basic Electronics
103	Advanced Electronics
104	Microprocessors
105	Avionics Maintenance Practices
106	Aircraft Logic Systems
107	Aircraft Communication Systems
	107 121 201 202 203 101 103 104 105 106



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AVT	108	Navigation Systems
AVT	109	Flight Director and Autopilot Systems
CMP	101	Introduction to Microcomputers
<b>ECO</b>	191	Principles of Economics
<b>ENG</b>	191	Composition
MAT	191	College Algebra
MAT	193	College Trigonometry
PHY	190	Introductory Physics
<b>PSY</b>	191	Introductory Psychology



# PROGRAM STRUCTURE (Course Consistency)

#### **Standard Statement**

Courses assigned a given course identification code are consistent.

#### **Explanatory Comment**

Courses assigned the same course identification code are consistent throughout the state.

One quarter equals a minimum of 50 instructional days. One contact hour equals a minimum of 50 minutes of instruction.

One (1) quarter hour credit is defined as follows:

- a) class One contact hour of class per week for the duration of a quarter equals one quarter hour credit; class is defined as instruction which emphasizes group or individualized classroom learning.
- b) demonstration laboratory (D.Lab) Two contact hours of demonstration laboratory per week for the duration of a quarter equals one quarter hour credit; demonstration laboratory is defined as instruction which emphasizes teacher assisted learning activities.
- c) practical performance laboratory (P.Lab) Three contact hours of practical performance laboratory per week for the duration of a quarter equals one quarter hour credit; practical performance laboratory is defined as instruction which emphasizes structured activities requiring the application and practice of occupational competencies.
- d) occupation-based instruction (O.B.I.) Three contact hours of occupation-based instruction per week for the duration of a quarter equals one quarter hour credit; occupation-based instruction is defined as instruction which emphasizes supervised work-experience activities requiring the application of occupational competencies.



#### Evaluative Criteria

Each course assigned a given course identification code utilizes certain components identical to those designated for that course identification code statewide.

Components designated for each course identification code include:

- a) course title;
- b) essential course description;
- c) essential competency areas taught; and
- d) number of quarter hour credits awarded for course completion.



Courses in the Avionics Maintenance Technology associate degree program include:

#### **AMT 101 - AIRCRAFT MAINTENANCE REGULATIONS**

Provides students with the knowledge and skills necessary to select and use FAA and manufacturers' specifications, data sheets, manuals, related regulations, and technical data; write descriptions of aircraft conditions, record work performed, complete maintenance forms and inspection reports; and learn to interpret federal regulations regarding mechanic privileges and limitations. Topics include: maintenance publications, forms and records, and mechanic privileges and limitations.

Compe	tency	<u>Areas</u>

#### **Hours**

- Maintenance Publications	Class/Week - 2
- Forms and Records	D.Lab/Week - 2
- Mechanic Privileges and Limitations	Credit - 3

Prerequisite: Provisional admission

#### **AMT 102 - AIRCRAFT APPLIED SCIENCES**

Provides students with the fundamentals of aircraft servicing methods and ground operations. Topics include: cleaning and corrosion control, fluid line fabrication and installation, aircraft hardware and materials, aircraft drawing, and weight and balance.

#### Competency Areas

#### Hours

- Cleaning and Corrosion Control	Class/Week - 10
- Fluid Line Fabrication and Installation	P.Lab/Week - 10
- Aircraft Hardware and Materials	Credit - 13

- Aircraft Drawings

- Weighing and Balancing

Prerequisite: Provisional admission



#### **AMT 105 - SHEET METAL STRUCTURES**

Provides a study of metal structures of welded tube and riveted sheet monocoque or semi-monocoque. Topics include: identification, selection, and installation of rivets and other mechanical fasteners in stressed skin construction; inspection and repair of sheet metal and bonded structures; sheet metal formation; and inspection and repair of plastics, honeycomb, and laminated structures as well as windows, doors, and interior furnishings.

#### Competency Areas

- Basic Sheet Metal Structures
- Conventional Rivets
- Special Rivets and Fasteners
- Repair of Sheet Metal Structures
- Bonded Structures
- Sheet Metal Formation
- Plastics, Honeycomb, and Laminated Structures
- Windows, Doors, and Interior Furnishings

Prerequisite: Provisional admission

#### Hours

Class/Week - 5 P.Lab/Week - 7 Credit - 7



#### **AMT 107 - ASSEMBLY AND RIGGING**

Provides a study of aircraft configurations. Topics include: proper nomenclature applicable to rotary and fixed wing aircraft; use of hand tools and equipment for assembly and rigging; aircraft assembly, alignment of aircraft structures, balancing and rigging of control surfaces, and jacking of various aircraft; and airframe conformity and airworthiness inspection.

#### Competency Areas

- Hand Tools and Equipment for Assembly and Rigging
- Fixed Wing Aircraft Rigging
- Aircraft Assembly
- Rotary Wing Aircraft Rigging
- Alignment of Structures
- Balance and Rigging of Movable Control Surfaces
- Jacking
- Airframe Conformity and Airworthiness Inspection

Prerequisite: Program admission



Class/Week - 5 P.Lab/Week - 5

Credit - 6



#### **AMT 121 - AVIATION PHYSICS**

Provides students with an introduction to the theory and application of physics to aerospace vehicles and their subsystems. Topics include: inclined plane, lever, and pulley; origin and transmission of sound; relationship between temperature and heat; relationships of pressure, temperature, and air mass volume; laws of confined gases; Bernoulli's Principle; relationship of air density to temperature and humidity and the effect on aircraft performance; centrifugal and centripetal force; and physical factors affecting engine output.

#### Competency Areas

- Temperature and Heat Relationships
- Pressure, Temperature, and Volume of Air Mass Relationships
- Factors Affecting Air Pressure on Air Foil
- Physical Factors Affecting Engine Output
- Pressure, Area, and Force Relationships
- Inclined Plane, Lever, and Pulley
- Origin of Sound
- Centrifugal and Centripetal Force

Prerequisite/Corequisite: AMT 102

#### <u>Hours</u>

Class/Week - 3 Lab/Week - 0 Credit - 3



#### AMT 201 - FLUID POWER AND LANDING GEAR SYSTEMS

Provides a study of the principles of generation, distribution, and management of hydraulic and pneumatic power throughout the aircraft structure. Topics include: wheels, brakes, tires, and fixed and retractable landing gear systems; position indicating and warning systems; steering systems; hydraulic fluids and laws of physics; and hydraulic and pneumatic power systems.

#### Competency Areas

#### Hours

- Landing Gear Systems

Class/Week - 7

- Brake Systems

P.Lab/Week - 8

- Wheels and Tires

Credit - 9

- Steering Systems
- Hydraulic Fluids and Laws of Physics
- Hydraulic and Pneumatic Power System Components
- Hydraulic and Pneumatic Power Systems
- Position and Warning Systems

Frerequisite: Program admission

#### **AMT 202 - UTILITY SYSTEMS**

Provides a study of the heating, cooling, ventilation, and pressurization of the aircraft interior and the protection of exterior surfaces from ice accumulation. Topics include: fire detection and extinguishing systems; fuel storage, transfer, distribution, and dump systems; aircraft flight instrument systems; cabin atmosphere systems; and ice and rain control systems.

#### Competency Areas

Hours

- Cabin Atmosphere Control Systems

Class/Week - 8 P.Lab/Week - 7

- Ice and Rain Control Systems

Credit - 10

- Fire Protection Systems - Aircraft Fuel Systems

- Aircraft Instrument Systems

Prerequisite: Program admission

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### AMT 203 - AIRCRAFT ELECTRICAL AND NAVIGATION SYSTEMS

Provides a study of aircraft electrical, communication, and navigation systems. Topics include: circuit protection devices, switches and ratings; proof of current requirements; wire requirements; inverter systems; alternators; aircraft voltage systems; AC generators; and transformer-rectifier principles. Additional topics are radio and transmitter principles; instrument landing systems; emergency locator transmitters; and installation procedures.

#### Competency Areas

#### Hours

- Airframe Electrical Wiring, Controls, Switches Indicators, and Protective Devices

Class/Week - 7 P.Lab/Week - 8

- AC and DC Electrical Systems

Credit - 9

- Aircraft Electrical System Components

- Autopilot and Approach Control Systems

- Aircraft Electronic Communication and Navigation Systems

- Antenna and Electronic Equipment Installations

Prerequisite: AVT 103



#### **AVT 101 - BASIC ELECTRONICS**

Provides a review of the basic theory and application of electronics with a primary focus on use in avionic systems. Topics include: atomic theory, DC circuits, AC circuits, alternating current, inductance and transformers, capacitance, resonance and filters, vacuum tubes, and solid state devices.

#### Competency Areas

- Atomic Theory
- DC Circuits
- AC Circuits
- Alternating Current
- Inductance and Transformers
- Capacitance
- Resonance and Filters
- Vacuum Tubes
- Solid State Devices

Prerequisite: MAT 191 Corequisite: MAT 193

#### **Hours**

Class/Week - 5 D.Lab/Week - 3 P.Lab/Week - 2 Credit - 6



#### **AVT 103 - ADVANCED ELECTRONICS**

Introduces the theory and application of radio frequency transmission and reception. Topics include: power supplies, measuring devices, oscillators, amplifiers, transmitters, amplitude modulation, AM receivers, frequency modulation, and antenna systems.

#### Competency Areas

- Power SuppliesMeasuring Devices
- Oscillators
- Amplifiers
- Transmitters
- Amplitude Modulation
- AM Receivers
- Frequency Modulation
- Antenna Systems

Prerequisite: AVT 101

#### **Hours**

Class/Week - 5 D.Lab/Week - 3 P.Lab/Week - 2

Credit - 6

#### **AVT 104 - MICROPROCESSORS**

Introduces the theory and application of microprocessors with a primary focus on their use in avionic systems. Topics include: numbering system, logic gates, Boolean algebra, flip-flops, and registers and counters.

#### Competency Areas

- Numbering System

Logic GatesBoolean Algebra

- Flip-Flops

- Registers and Counters

Prerequisite: AVT 101

#### **Hours**

Class/Week - 5

D.Lab/Week - 3

P.Lab/Week - 2

Credit - 6





#### **AVT 105 - AVIONICS MAINTENANCE PRACTICES**

Provides practical experience in maintaining avionics systems. Topics include: construction of solid state circuits, use of test instruments, calibrating systems, component removal techniques, repair procedures, and troubleshooting techniques.

#### Competency Areas

#### **Hours**

- Solder/Solderless Connecting

Class/Week - 3 P.L.b/Week - 7

Use of Test InstrumentsComponent Installation/Removal Techniques

Credit - 5

- Repair Procedures

- Troubleshooting Techniques

Prerequisite: AVT 101

#### **AVT 106 - AIRCRAFT LOGIC SYSTEMS**

Focuses on microprocessor based computers used in avionics systems. Topics include: memory, mass storage, computer systems, data bases, and logic systems repair procedures.

#### Competency Areas

#### Hours

-	Memory	
-	Mass Stora	ıge

Class/Week - 5

- Computer Systems

D.Lab/Week - 3 P.Lab/Week - 2

- Data Bases

Credit - 6

- Logic Systems Repair Procedures

Prerequisite/Corequisite: AVT 104





#### **AVT 107 - AIRCRAFT COMMUNICATION SYSTEMS**

Continues the study of avionics maintenance practices with emphasis on aircraft communication systems. Topics include: component operation, component location, integration, analysis, maintenance, and ACARS.

#### Competency Areas

- ACARS

#### **Hours**

<ul><li>Component Operation</li><li>Component Location</li><li>Integration</li></ul>	Class/Week - 6 D.Lab/Week - 2 P.Lab/Week - 2
- Analysis - Maintenance	Credit - 7

Prerequisite/Corequisite: AVT 104

#### **AVT 108 - NAVIGATION SYSTEMS**

Continues the study of avionics maintenance practices with emphasis on aircraft navigational systems. Topics include: bridges and monitors, synchros, gyros, and navigation systems.

#### Competency Areas

#### **Hours**

- Bridges and Monitors	Class/Week - 6
- Synchros	D.Lab/Week - 2
- Gyros	P.Lab/Week - 2
- Navigation Systems	Credit - 7

Prerequisite/Corequisite: AVT 104



#### **AVT 109 - FLIGHT DIRECTOR AND AUTOPILOT SYSTEMS**

Continues the study of avionics maintenance practices with emphasis on flight director and autopilot systems. Topics include: flight director systems, and autopilot systems, avionics line maintenance test equipment.

Competency Areas	<u>Hours</u>
<ul><li>Flight Director Systems</li><li>Autopilot Systems</li><li>Avionics Line Maintenance Test Equipment</li></ul>	Class/Week - 6 D.Lab/Week - 2 P.Lab/Week - 2 Credit - 7

#### **CMP 101 - INTRODUCTION TO MICROCOMPUTERS**

Introduces fundamental concepts and operations necessary to utilize microcomputers. Emphasis is placed on basic functions and familiarity with computer use. Topics include: computer terminology; computer operating systems; data storage; file management; equipment care and operation; and an introduction to word processing, database, and spreadsheet applications.

#### Competency Areas

- Computer Terminology
- Disk Operating Systems
- Data Storage
- File Management
- Hardware and Software Care and Operation
- Introductory Word Processing, Database, and Spreadsheet Applications

Prerequisite: Provisional admission

Prerequisite/Corequisite: AVT 108



Class/Week - 1 D.Lab/Week - 4 Credit - 3



#### **ECO 191 - PRINCIPLES OF ECONOMICS**

Investigates economic principles and applications of economic principles to current trends. Emphasis is placed on principles of the American economic system of free enterprise. Topics include: basic economic principles; economic forces and indicators; capital and labor; business enterprise; factors of industrial production cost; price, competition, and monopoly; personal income management; insurance, personal investments, and social security; money and banking; government expenditures, federal and local; fluctuations in production, employment, and income; and the United States economy in perspective.

#### Competency Areas

- Basic Economic Principles
- Economic Forces and Indicators
- Capital and Labor
- Business Enterprise
- Factors of Industrial Production Cost
- Price, Competition, and Monopoly
- Personal Income Management
- Insurance, Personal Investments, and Social Security
- Money and Banking
- Government Expenditures, Federal and Local
- Fluctuations in Production, Employment, and Income
- United States Economy in Perspective

Prerequisite: Program admission

#### Hours

Class/Week - 5 Lab/Week - 0 Credit - 5





#### **ENG 191 - COMPOSITION**

Emphasizes the development and improvement of written and oral communications abilities. Topics include: idea development; vocabulary; spelling; outlining; sentence elements; revision; unity and coherence in basic paragraph development; research; exploration of communication modes including description, exposition, argumentation, and persuasion; and functional writing as applied to reports, abstracts, and technical papers.

#### Competency Areas

#### **Hours**

- Fundamentals of Grammar and Composition	Class/Week - 5	
- Fundamentals of Oral Communications	Lab/Week - 0	
- Modes of Written and Oral Communications	Credit - 5	
- Research		

Prerequisite: Program admission level verbal achievement

### MAT 191 - COLLEGE ALGEBRA

Emphasizes problem solving techniques. Topics include: fundamental algebra concepts and operations, linear and quadratic equations and functions, simultaneous equations, inequalities, exponents and powers, graphing techniques, and word problems.

#### Competency Areas

#### **Hours**

- Fundamental Concepts and Operations - Linear and Quadratic Equations and Functions	Class/Week - 5 Lab/Week - 0
- Simultaneous Equations	Credit - 5

- Inequalities

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- Exponents and Powers
- Graphing Techniques
- Word Problems

Prerequisite: Program admission level math achievement



#### **MAT 193 - COLLEGE TRIGONOMETRY**

Emphasizes problem solving techniques. Topics include: trigonometric functions, properties of trigonometric functions, vectors and triangles, exponential functions, complex numbers, identities, inverse functions, and logarithmic functions. Graphs of functions and their inverse are included.

#### Competency Areas

#### - Trigonometric Functions

- Properties of Trigonometric Functions

- Exponential Functions

- Vectors and Triangles

- Inverse of Trigonometric Functions/Graphing

- Logarithmic Functions

Prerequisite: MAT 191

#### Hours

Class/Week - 5 Lab/Week - 0 Credit - 5

#### PHY 190 - INTRODUCTORY PHYSICS

Introduces the student to the basic laws of physics. Topics include: Newtonian mechanics, fluids, heat, light and optics, sound, electricity and magnetism, and modern physics.

#### Competency Areas

- Newtonian Mechanics
- Fluids
- Heat
- Light and Optics
- Sound
- Electricity and Magnetism
- Modern Physics

Prerequisite: MAT 191

#### Hours

Class/Week - 4 D.Lab/Week - 3 Credit - 5



#### **PSY 191 - INTRODUCTORY PSYCHOLOGY**

Emphasizes the basics of human psychology and individual and group behavior. Topics include: social environments; career development; communications and group processes; personality; emotions and motives; conflicts, stress, and anxiety; perception and learning; and case problems and typical relationships.

#### Competency Areas

- Social Environments
- Career Development
- Communications and Group Processes
- Personality
- Emotions and Motives
- Conflicts, Stress, and Anxiety
- Perception and Learning

Prerequisite: Program admission

#### Hours

Class/Week - 5 Lab/Week - 0 Credit - 5



# PROGRAM STRUCTURE (Course Sequence)

#### Standard Statement

The Avionics Maintenance Technology associate degree program requires students to progress through the four instructional course categories in a developmentally valid sequence.

#### **Explanatory Comment**

The four instructional course categories are: general core courses, fundamental occupational/technical courses, specific occupational/technical courses, and elective courses.

A developmentally valid instructional sequence is one in which the student acquires prerequisite knowledge and skills before progressing to more advanced studies.

#### Evaluative Criteria

The Avionics Maintenance Technology associate degree program requires students to complete prerequisite courses prior to enrolling in subsequent courses.

Provisions are made for Avionics Maintenance Technology associate degree program students to exempt courses in which they are competent.

The Avionics Maintenance Technology associate degree program complies with the required provisional admission, program admission, and/or program admission level competency prerequisites listed below.

The Avionics Maintenance Technology associate degree program reflects the suggested course prerequisites and/or corequisites listed below.



(In the list below prerequisites are indicated by [P], corequisites are indicated by [C], and prerequisites/corequisites are indicated by [P/C].)

<u>Courses</u>		<u>Sequence</u>
	Aircraft Maintenance Regulations	[P] Provisional admission
AMT 102	A A	[P] Provisional admission
<b>AMT</b> 105		[P] Provisional admission
<b>AMT</b> 107	Assembly and Rigging	[P] Program admission
<b>AMT</b> 121		[P/C] AMT 102
AMT 201	Fluid Power and Landing Gear Systems	[P] Program admission
	Utility Systems	[P] Program admission
AMT 203	Aircraft Electrical and Navigation	- · ·
	Systems	[P] AVT 103
<b>AVT</b> 101	Basic Electronics	[P] MAT 191
		[C] MAT 193
AVT 103	Advanced Electronics	[P] AVT 101
AVT 104		[P] AVT 101
AVT 105		[P] AVT 101
<b>AVT</b> 106	<u> </u>	[P/C] AVT 104
<b>AVT</b> 107		[P/C] AVT 104
AVT 108		[P/C] AVT 104
<b>AVT</b> 109	i j	[P/C] AVT 108
CMP 101	$\boldsymbol{x}$	[P] Provisional admission
ECO 191	<u> </u>	[P] Program admission
ENG 191	Composition	[P] Program admission
		level verbal
		achievement
MAT 191	College Algebra	[P] Program admission
		level math
		achievement
MAT 193		[P] MAT 191
PHY 190	Introductory Physics	[P] MAT 191
PSY 191	Introductory Psychology	[P] Program admission



### **AVIONICS MAINTENANCE TECHNOLOGY, DEGREE**

## PROGRAM STRUCTURE (Electives)

#### Standard Statement

Electives are made available for the Avionics Maintenance Technology associate degree program.

### **Explanatory Comment**

Avionics Maintenance Technology associate degree program students are provided opportunities to enroll in state-approved elective courses. Elective courses utilize the following components: course title, essential course description, essential competency areas, and number of credits awarded for course completion.

Required courses for a degree program are available to other degree programs as elective courses.

## **Evaluative Criteria**

Electives are established utilizing the following process:

- a) The administration of the institution, the program faculty, and the program advisory committee cooperate in establishing and utilizing a system to recommend needed and feasible elective courses;
- b) The administration of the institution, the program faculty, and the program advisory committee communicate with the statewide program technical committee and appropriate staff of the Georgia Department of Technical and Adult Education concerning the proposed elective(s);
- c) The administration of the institution, the program faculty, and the program advisory committee consider revisions and prepare a final elective course proposal;
- d) The administration of the institution presents the elective course proposal to the appropriate staff of the Georgia Department of Technical and Adult Education;
- e) The staff of the Georgia Department of Technical and Adult Education reviews the proposal using its established criteria for evaluating elective courses.

Electives are made available for the Avionics Maintenance Technology associate degree program and elective course work is included in the requirements for program graduation.



### **AVIONICS MAINTENANCE TECHNOLOGY, DEGREE**

## PROGRAM STRUCTURE (Course Transferability)

#### Standard Statement

Avionics Maintenance Technology associate degree program courses are transferable on the basis of their course identification code.

## Explanatory Comment

Courses assigned identical course identification codes include consistent essential competency areas; therefore, resultant credits are guaranteed transferability between programs and institutions under the jurisdiction of the Georgia Board of Technical and Adult Education.

Courses that do not have an assigned course identification code but include similar essential competency areas are selectively transferable.

#### Evaluative Criteria

Avionics Maintenance Technology associate degree program courses assigned designated course identification codes are transferable between programs and institutions under the jurisdiction of the Georgia Board of Technical and Adult Education.

Courses taken outside the Georgia Technical and Adult Education system are selectively accepted for transfer on the basis of similarity in competency areas as determined by the Avionics Maintenance Technology associate degree program faculty and admissions officers.

Only those courses in which a grade of C or better was awarded are transferable.



## PROGRAM EVALUATION AND PLANNING (Program Evaluation)

## Standard Statement

A written evaluation procedure is developed and implemented for the Avionics Maintenance Technology program.

### **Explanatory Comment**

Program evaluation procedures vary depending upon the nature of the institution and the program. The administration and program faculty, in association with the program advisory committee, develop and implement program evaluation procedures and data collection techniques that are reasonable and realistic for yearly evaluation purposes.

Avionics Maintenance Technology program faculty and administrative personnel work together to determine student enrollment, attrition, graduation, placement, and performance levels.

#### Evaluative Criteria

A procedure for continuous Avionics Maintenance Technology program evaluation is developed and implemented by the administration of the institution, the program faculty, and the program advisory committee. Formal evaluation of the Avionics Maintenance Technology program is conducted and documented annually.

The Avionics Maintenance Technology program evaluation procedure is used to determine the extent to which program goals and objectives are achieved.

The Avionics Maintenance Technology program evaluation results are used to determine the adequacy of the existing program to meet current occupational needs.

The Avionics Maintenance Technology program evaluation procedure is used to ascertain the consistency of the philosophy, purpose, goals, and objectives of the program with those of the institution, the Georgia Board of Technical and Adult Education, and the designated accrediting agency(ies).



The Avionics Maintenance Technology program evaluation procedure includes review of student program evaluations, enrollment, attrition, graduation, placement, and student performance levels.

The Avionics Maintenance Technology program evaluation procedure includes consultation with the program advisory committee, frequent communication with employers, analysis of placement and follow-up data, and collection of other information to evaluate and document program relevance.

Avionics Maintenance Technology program evaluation results are used to plan program improvements.



# PROGRAM EVALUATION AND PLANNING (Program Planning)

### Standard Statement

A written planning procedure is developed and implemented for the Avionics Maintenance Technology program.

## **Explanatory Comment**

The Avionics Maintenance Technology program planning procedure allows responsiveness to the changing needs of the community and employment market.

The Avionics Maintenance Technology program is evaluated at the institutional level by the students, instructors, program advisory committee, and administration; from this documented data, short-range and long-range program planning is developed.

## Evaluative Criteria

An Avionics Maintenance Technology program planning procedure is developed and implemented by the administration of the institution and program faculty. Formal planning for the Avionics Maintenance Technology program is conducted and documented annually.

The Avionics Maintenance Technology program planning procedure utilizes program evaluation results to facilitate provision of program offerings of sufficient quality and scope to meet community and employment market needs.

The Avionics Maintenance Technology program planning procedure considers recommendations for program and course continuation, addition, deletion, and/or modification based on needs assessment information and input from the administration of the institution, the program faculty, and the advisory committee.

The Avionics Maintenance Technology program planning procedure considers information from appropriate national, state, and local governmental and non-governmental agencies.



The Avionics Maintenance Technology program planning procedure considers information such as demographic studies, occupational surveys, current curricula, cost estimates, instructor availability, equipment needs, and projected enrollment figures that include special populations.

The Avionics Maintenance Technology program planning procedure satisfies the program planning requirements of the designated accrediting agency(ies).



PROGRAM EVALUATION AND PLANNING (Enrollment, Graduation, and Placement Levels)

#### Standard Statement

An evaluation of the enrollment, graduation, and placement levels of the Avionics Maintenance Technology program is conducted.

### **Explanatory Comment**

Acceptable Avionics Maintenance Technology program outcomes (enrollment, graduation, and placement levels) are identified in the Evaluation, Planning, and Budgeting (EPB) model.

#### Evaluative Criteria

Annual evaluation of Avionics Maintenance Technology program enrollment, graduation, and placement statistics is conducted and documented by the administration and program faculty.

Avionics Maintenance Technology program evaluation findings are compared with acceptable outcome levels designated for state evaluation requirements.

Factors contributing to the outcomes of the Avionics Maintenance Technology program are identified and analyzed. Where enrollment, graduation, and/or placement levels are unacceptable, appropriate corrective action is taken.



## PROGRAM EVALUATION AND PLANNING (Attrition Levels)

## Standard Statement

An analysis of the attrition level of the Avionics Maintenance Technology program is conducted and used in evaluating and improving the program.

## **Explanatory Comment**

Attrition level is a measure of the number of students who withdraw from a program prior to completion of graduation requirements.

Attrition levels vary from one type of program to another depending on the nature of the program and the student population. The attrition level of the Avionics Maintenance Technology program is compared with relevant, available national norms and other data.

## Evaluative Criteria

Annual evaluation of the attrition level of the Avionics Maintenance Technology program is conducted and documented by the program faculty.

Factors contributing to the attrition level are identified and analyzed, and appropriate corrective action is taken.



## PROGRAM EVALUATION AND PLANNING (Student Performance)

#### Standard Statement

An evaluation of the Avionics Maintenance Technology program is conducted based on student achievement levels.

## **Explanatory Comment**

Achievement levels are evaluated on the basis of verified student performance related to academic knowledge, occupational/technical knowledge, and performance skills.

Student achievement levels for the Avionics Maintenance Technology program are determined on the basis of student performance data gathered from tests which are locally developed and conducted during each program of study.

## Evaluative Criteria

Annual evaluation of Avionics Maintenance Technology program student achievement levels is conducted and documented by the administration and program faculty.

Factors contributing to student achievement levels are identified and analyzed. Where achievement is low, corrective action is taken to improve the program.



## INSTRUCTIONAL PROGRAM (Course Content)

#### Standard Statement

The essential content of each Avionics Maintenance Technology course is consistent statewide for courses having the same course identification code.

### **Explanatory Comment**

Course content is defined in terms of competency areas taught. The program-specific standards of the Georgia Board of Technical and Adult Education detail the essential competency areas for each course identification code.

#### Evaluative Criteria

The content of each Avionics Maintenance Technology course having a given course identification code includes, but is not limited to, essential competency areas identified for that course identification code.

Competency areas included in the Avionics Maintenance Technology course content reflect advances in the subject area and occupational field and respond to student, community, and employment market needs.

The overall content of each Avionics Maintenance Technology course is consistent with established program goals and objectives.



## INSTRUCTIONAL PROGRAM (Course Objectives)

### Standard Statement

Each Avionics Maintenance Technology program course is constructed on the basis of course objectives.

## **Explanatory Comment**

Course objectives are desired student performance outcomes stated in measurable performance terms.

The Avionics Maintenance Technology program faculty coordinates the planning of course objectives, outlines, and syllabi in an effort to facilitate program efficiency and consistency.

## Evaluative Criteria

The objectives of each Avionics Maintenance Technology course are derived from established program objectives.

Avionics Maintenance Technology course outlines and lesson plans are based on course objectives.



## INSTRUCTIONAL PROGRAM (Course Instruction)

#### Standard Statement

Suitable instructional techniques and resources facilitate the fulfillment of Avionics Maintenance Technology course objectives.

## **Explanatory Comment**

A wide variety of instructional techniques and resources are used to direct student learning experiences.

#### **Evaluative Criteria**

Course outlines, syllabi, and group or individual lesson preparations serve to organize instruction in each Avionics Maintenance Technology classroom and laboratory.

Instructional materials such as competency tests, text books, instruction sheets, audiovisuals, and computer programs are utilized to meet Avionics Maintenance Technology program goals and objectives and enhance instructional effectiveness.

Teaching methods, materials, and procedures make provisions for individual differences, needs, and capabilities. Opportunities for remediation are provided to students as needed.

Student learning experiences include theoretical instruction and practical application of knowledge. The ratio of theoretical to practical instruction depends on the nature of program competencies.

Student progress is systematically monitored, evaluated, and recorded by the Avionics Maintenance Technology program faculty as part of the instructional process.

Desirable employability skills are integrated into Avionics Maintenance Technology course instruction and are modeled by the instructor.

Academic skills are integrated into Avionics Maintenance Technology course instruction and are modeled by the instructor.



A syllabus which outlines course objectives, requirements, content, and evaluation techniques is made available to students enrolled in each Avionics Maintenance Technology course.

Instructional methods are evaluated routinely, and evidence of improvement is collected and documented by the Avionics Maintenance Technology program faculty.



## INSTRUCTIONAL PROGRAM (Occupation-Based Instruction)

### Standard Statement

The Avionics Maintenance Technology program offers effective occupation-based instructional delivery where appropriate.

## **Explanatory Comment**

Occupation-based instructional delivery systems include educational work experiences, internships, practicums, and other specialized and/or innovative learning arrangements.

Diploma/degree programs that require internships, work experience arrangements, and/or other occupation-based instructional experiences do so on the basis of designated essential competency areas and courses for the given program.

## Evaluative Criteria

Any internship, on-the-job training arrangement, or other educational work experience that is an Avionics Maintenance Technology program requirement or elective is:

- a) listed as a course having a course identification code;
- b) assigned course credit and required tuition;
- defined by the same requirements for statewide course title, essential course description, and essential competency areas as any other diploma/degree program course;
- d) controlled and supervised by the institution, Avionics Maintenance Technology program faculty, and/or the person designated to coordinate work experience courses; and
- e) managed through the use of prescribed individual training plans that detail required student learning and performance objectives and appropriate agreements between institutions and work experience supervisors.



## INSTRUCTIONAL PROGRAM (Evaluation of Students)

### Standard Statement

A system for evaluation of students is developed and implemented by the Avionics Maintenance Technology program faculty.

### **Explanatory Comment**

Evaluation of students is based on tests, observations, records, interviews, homework, projects, and/or other evidence of student performance.

#### Evaluative Criteria

The Avionics Maintenance Technology program system for evaluation of students is consistent with institutional grading policies.

The faculty of the Avionics Maintenance Technology program develops, implements, and disseminates a written system for evaluation of students.

The Avionics Maintenance Technology program system for evaluation of students reflects the philosophy, purpose, goals, and objectives of the program.

The Avionics Maintenance Technology program system for evaluation of students requires use of competency-based measures of student performance.

The Avionics Maintenance Technology program system for evaluation of students requires use of both formative and summative evaluation.

The Avionics Maintenance Technology program system for evaluation of students includes evaluation and documentation of student achievement in both course specific knowledge and practical application.

The Avionics Maintenance Technology program system for evaluation of students includes evaluation and documentation of student achievement in the cognitive, affective, and puchomotor domains.



The Avionics Maintenance Technology program system for evaluation of students is reviewed annually and revised, as necessary.



## INSTRUCTIONAL PROGRAM (Grading System)

#### Standard Statement

The Avionics Maintenance Technology program implements statewide grading standards.

### **Explanatory Comment**

Program grading systems vary in detail but are consistent regarding major principles.

#### Evaluative Criteria

The faculty of the Avionics Maintenance Technology program develops, implements, and disseminates a written grading system that incorporates statewide grading standards.

The grading system reflects the objectives of the Avionics Maintenance Technology program.

The grading system of the Avionics Maintenance Technology program is used to promote student awareness of learning progress.

The grading system of the Avionics Maintenance Technology program bases grades in occupational courses on documented measures of student knowledge, practical application of knowledge, and employability skills.

The grading system of the Avionics Maintenance Technology program establishes passing grades that document student achievement of course competencies at levels acceptable for job entry.

The grading system of the Avionics Maintenance Technology program requires use of a grading scale whereby 90 to 100% is an A, 80 to 89% is a B, 70 to 79% is a C, 65 to 69% is a D, and 0 to 64% is an F.

The grading system of the Avionics Maintenance Technology program recommends the minimum course grade of C required for progress from specified courses to more advanced courses.



The grading system of the Avionics Maintenance Technology program is evaluated annually by the program faculty and revised, as needed.



## INSTRUCTIONAL PROGRAM (Laboratory Management)

#### Standard Statement

A system for instructional laboratory management is developed and implemented by the faculty of the Avionics Maintenance Technology program.

## **Explanatory Comment**

An established laboratory management system facilitates productive instructional laboratory operation.

#### Evaluative Criteria

The faculty of the Avionics Maintenance Technology program develops and implements a written laboratory management system.

The laboratory management system is disseminated to Avionics Maintenance Technology program students and faculty.

Institutional policies regarding safety, liability, and laboratory operation are reflected in the Avionics Maintenance Technology program laboratory management procedure.

The Avionics Maintenance Technology program laboratory management system is consistent with the goals and objectives of the program.

The Avionics Maintenance Technology program laboratory management system maximizes the instructional usefulness of student laboratory experiences. The laboratory management system is designed to meet student needs in learning program competencies.

The Avionics Maintenance Technology program laboratory management system complies with and stresses safety practices, requires that safety instruction precede laboratory instruction, and establishes required safety tests.

The Avionics Maintenance Technology program laboratory management system is developed using input from program faculty, advisory committee members, and, when possible, students.



The laboratory management system is evaluated annually and revised, as needed.



## INSTRUCTIONAL PROGRAM (Equipment, Supplies, and Materials)

#### Standard Statement

The furnishings, equipment, supplies, and materials for the Avionics Maintenance Technology program are sufficient, appropriate, and adequately maintained to support safe and effective instruction.

### **Explanatory Comment**

Program equipment, supplies, and materials include items used in a given occupation and items used in the delivery of instruction.

#### Evaluative Criteria

Current and adequately maintained furnishings, equipment, supplies, and materials are available to meet the instructional goals and performance objectives of the Avionics Maintenance Technology program.

Students in the Avionics Maintenance Technology program are helped to develop transferable occupational skills by using instructional equipment, tools, materials, and supplies that are comparable to those currently used in the occupational field. Tools and equipment reflect industry quality standards.

The furnishings, equipment, supplies, and materials used in the Avionics Maintenance Technology program meet or exceed applicable local, state, and federal health and safety standards.

The Avionics Maintenance Technology program makes provisions to ensure that all health and safety equipment, machine guards, fixtures, materials, and supplies required by local codes, state law, and professional practice are available and maintained in working order.

The Avionics Maintenance Technology program requires that applicable personal safety devices, equipment, and supplies are available, utilized, and maintained in working order.

First aid supplies appropriate for the Avionics Maintenance Technology program are available throughout each program area.



Avionics Maintenance Technology program equipment, supplies, and materials are installed, color coded, controlled, ventilated, and/or stored in accordance with applicable health and safety codes.

The Avionics Maintenance Technology program implements an equipment, materials, and supplies management system that delineates proper procedures for purchasing, maintaining, locating, storing, inventorying, securing, distributing, repairing, replacing, and safely using instructional items.

The Avionics Maintenance Technology program utilizes its advisory committee and other input in implementing annual evaluation and planning procedures to maintain or improve the adequacy, safety, and management of equipment, materials, and supplies.



## INSTRUCTIONAL PROGRAM (Physical Facility)

#### Standard Statement

The Avionics Maintenance Technology program is provided with adequate and appropriate facilities.

## **Explanatory Comment**

The facilities for the Avionics Maintenance Technology program vary depending on enrollments, learning activities involved, instructional equipment used, indoor and/or outdoor instruction involved, and other factors.

#### Evaluative Criteria

Space allocations for the Avionics Maintenance Technology program are appropriate for the number of students enrolled and the type of instructional activity involved.

The physical facilities for the Avionics Maintenance Technology program are designed to facilitate instructional delivery, allow program flexibility, accommodate instructional management, protect students and staff against safety hazards, protect equipment from loss or damage, provide accessibility to all students, and create a positive atmosphere for effective learning.

The physical facilities for the Avionics Maintenance Technology program are arranged to separate noise-producing activities from those that require a quiet environment, to expedite student traffic flow, and to prevent disruption of instruction.

Water, electricity, and other utilities are safely and conveniently provided to the Avionics Maintenance Technology program on the basis of instructional needs.

The Avionics Maintenance Technology program is provided with lighting, heating, cooling, ventilation, and any specialized control systems needed to maintain healthy and safe working conditions and meet instructional requirements.

The physical facilities for the Avionics Maintenance Technology program include classrooms, laboratories, and/or other specialized learning areas needed to meet instructional requirements.





The institution provides adequate and appropriate non-instructional facilities including offices, restrooms, storage areas, and any other specialized areas needed to meet Avionics Maintenance Technology program needs.

The facilities for the Avionics Maintenance Technology program are maintained regularly and operated effectively and cost efficiently.

The Avionics Maintenance Technology program faculty and advisory committee conduct an annual facility evaluation which contributes to the overall institutional facility review process.



## ACADEMIC SKILLS (Academic Requirements)

## Standard Statement

Academic achievement standards are established for the Avionics Maintenance Technology program.

## **Explanatory Comment**

Examples of academic skills include, but are not limited to, communication skills, reading comprehension skills, and computation skills.

Developmental studies assist students to improve skills such as language usage, reading, and computation prior to regular program admission.

#### Evaluative Criteria

The Avionics Maintenance Technology program utilizes academic achievement standards for admission that reflect skills necessary for successful participation in the instructional program.

The institution offers developmental studies to students who do not meet academic achievement standards for program admission.

The institution offers a required general core curriculum consisting of academic instruction.

Opportunities for academic remediation are provided to students while enrolled in Avionics Maintenance Technology program courses.

The Avionics Maintenance Technology program utilizes academic evaluation achievement standards that reflect skills necessary for successful performance on the job.

Where a state-approved evaluation has not been established, evaluation of essential academic skills is conducted according to standards developed by the local program faculty.



## EMPLOYABILITY SKILLS (Job Acquisition)

#### Standard Statement

Job acquisition competency areas are integrated into the curriculum of the Avionics Maintenance Technology program.

### **Explanatory Comment**

Employability skills refer to the basic academic, interpersonal, reasoning, and problem solving skills that, when transferred to the occupational setting, facilitate job acquisition, retention, and advancement.

Job acquisition competency areas consist of essential employability skills that directly influence the ability to obtain employment.

#### Evaluative Criteria

The faculty of the Avionics Maintenance Technology program ensures that job acquisition competency areas are included in the curriculum.

Job acquisition competency areas include, but are not limited to, the following:

- a) job search;
- b) job application and resume preparation;
- c) interviewing; and
- d) job marketing.

The faculty of the Avionics Maintenance Technology program utilizes job follow-up data, current research, and the expertise of the program advisory committee to evaluate and update the delivery of program employability skills training.

The faculty of the Avionics Maintenance Technology program assists in providing student employment information to the job placement office.

The faculty of the Avionics Maintenance Technology program encourages and guides students in preparing occupationally appropriate job acquisition materials such as applications, resumes, letters of reference, work histories, course descriptions or outlines, transcripts, and other related information.



The media collection includes multi-media employability information appropriate for classroom and individual student use.



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## EMPLOYABILITY SKILLS (Job Retention and Advancement)

#### Standard Statement

Job retention and advancement competency areas are integrated into the curriculum of the Avionics Maintenance Technology program.

## **Explanatory Comment**

Employability skills refer to the basic academic, interpersonal, reasoning, and problem solving skills that, when transferred to the occupational setting, facilitate job acquisition, retention, and advancement.

Job retention and advancement competency areas consist of desirable job performance skills and attitudes that directly influence the ability to maintain employment or achieve an improved employment role.

### Evaluative Criteria

The faculty of the Avionics Maintenance Technology program ensures that job retention and advancement competency areas are included in the curriculum.

The Avionics Maintenance Technology program curriculum stresses professional job performance required for maintaining and advancing in a job including, but not limited to, demonstration of:

- a) knowledge of occupational and academic skills;
- b) quality work standards;
- c) productivity;
- d) communication skills;
- e) punctuality;
- f) problem solving skills;
- g) interpersonal skills;
- h) confidentiality; and
- i) knowledge of the career ladder.



The Avionics Maintenance Technology program curriculum stresses professional attitudes required for maintaining and advancing in a job including, but not limited to, demonstration of:

- a) cooperativeness;
- b) pleasantness;
- c) responsibility;
- d) self-control;
- e) enthusiasm;
- f) flexibility;
- g) helpfulness;
- h) loyalty; and
- i) willingness to learn.

The Avionics Maintenance Technology program faculty utilizes job follow-up data, current research, and the expertise of the program advisory committee to evaluate and update the delivery of program employability skills training.

The Avionics Maintenance Technology program faculty assists in providing student employment information to the job placement office.



## STAFF (Faculty Qualifications and Responsibilities)

#### Standard Statement

Qualified faculty are responsible for carrying out the purpose, goals, and objectives of the Avionics Maintenance Technology program.

### **Explanatory Comment**

Essential faculty qualifications and responsibilities are detailed in the Certification Manual and the program-specific standards established by the Georgia Board of Technical and Adult Education.

#### Evaluative Criteria

The qualifications for each Avionics Maintenance Technology program part-time or full-time faculty member meet the requirements specified in the Certification Manual of the Georgia Board of Technical and Adult Education, as appropriate, and the requirements of the designated accrediting agency(ies).

The responsibilities of each Avionics Maintenance Technology program part-time or full-time faculty member are in compliance with the requirements specified in the Georgia Board of Technical and Adult Policy Manual and are in conformance with the requirements of the designated accrediting agency(ies).

The faculty of the Avionics Maintenance Technology program use annual staff development opportunities to assure achievement of occupational and instructional competency.

Each part-time or full-time staff member conducting courses common to the Aviation Maintenance Technology program meets the instructor requirements (147.23) and the maintenance of instructor requirements (147.36) as specified in Part 147 of the Federal Aviation Requirements.



## ADVISORY COMMITTEE (Function)

#### Standard Statement

A program advisory committee provides expert support for the Avionics Maintenance Technology program.

## **Explanatory Comment**

A program advisory committee is established to promote interaction between the Avionics Maintenance Technology program and businesses and industries served by the program.

Faculty use the expertise of the advisory committee to improve program content and operation.

#### Evaluative Criteria

The Avionics Maintenance Technology program advisory committee assists with developing short-range and long-range plans.

The Avionics Maintenance Technology program advisory committee provides advice regarding curriculum content to ensure that courses relate to present and future employment needs.

The Avionics Maintenance Technology program advisory committee makes suggestions regarding the modification, addition, or deletion of course offerings.

The Avionics Maintenance Technology program advisory committee supports the program through public relations activities.

The Avionics Maintenance Technology program advisory committee makes recommendations regarding the design and use of physical facilities.

The Avionics Maintenance Technology program advisory committee makes recommendations regarding the selection and maintenance of equipment.

The Avionics Maintenance Technology program advisory committee assists in evaluation of program effectiveness, job development, job placement, program promotion, evaluation in relation to standards, program advocacy, and industrial support of the program.



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The Avionics Maintenance Technology program advisory committee submits its recommendations regarding program related changes to the appropriate state-level technical committee for review on an annual basis.

The Avionics Maintenance Technology program faculty provides documented evidence that program advisory committee recommendations are considered and that specific action is taken on each recommendation.



# ADVISORY COMMITTEE (Membership)

### Standard Statement

The membership of the Avionics Maintenance Technology program advisory committee is representative of the community and employment market served by the program.

## **Explanatory Comment**

The Avionics Maintenance Technology program advisory committee is composed primarily of persons in the industry served by the program and includes persons within the community and employment market who positively impact the program.

#### Evaluative Criteria

The faculty of the Avionics Maintenance Technology program, in cooperation with the administration of the institution, selects the advisory committee.

The Avionics Maintenance Technology program advisory committee includes a crosssection of representatives from program-related businesses and industries.

The Avionics Maintenance Technology program advisory committee includes program-related business and industry representatives who have varying occupational positions.

The Avionics Maintenance Technology program advisory committee includes faculty as ex officio members.

The Avionics Maintenance Technology program advisory committee is composed of a minimum of five members.

The Avionics Maintenance Technology program advisory committee maintains a base of experienced members while acquiring new members.

The Avionics Maintenance Technology program advisory committee members are recognized for their dedication and effort to improve the quality of education.



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## ADVISORY COMMITTEE (Meetings)

#### Standard Statement

Avionics Maintenance Technology program advisory committee meetings have a planned program of work.

### **Explanatory Comment**

Regularly scheduled formal advisory committee meetings focus on planning, developing, implementing, and evaluating the Avionics Maintenance Technology programs.

#### Evaluative Criteria

The Avionics Maintenance Technology program advisory committee has an annual program of work on file.

The Avionics Maintenance Technology program advisory committee meets a minimum of two times annually on a scheduled basis.

The Avionics Maintenance Technology program advisory committee elects officers, including a chairperson and a secretary.

The Avionics Maintenance Technology program advisory committee follows an agenda which is distributed to members prior to each meeting.

The chairperson of the Avionics Maintenance Technology program advisory committee assists program faculty in developing the agenda for each meeting.

The Avionics Maintenance Technology program advisory committee maintains minutes indicating date, agenda, members present, and recommendations.

Minutes are distributed to each Avionics Maintenance Technology program advisory committee member prior to each meeting.

The Avionics Maintenance Technology program advisory committee maintains an open file of minutes and other necessary documents for a minimum of three years.



The Avionics Maintenance Technology program advisory committee members are invited to make periodic classroom visits to the institution.

The Avionics Maintenance Technology program advisory committee has a quorum present to conduct business.



## SPECIAL NEEDS (Commitment)

#### Standard Statement

The Avionics Maintenance Technology program is committed to providing technical education to special needs students.

## **Explanatory Comment**

Special needs students are those who are academically and/or economically disadvantaged, are physically and/or mentally handicapped, or are national origin minority students with limited English language skills.

The special needs requirements of the Georgia Board of Technical and Adult Education meet or exceed all relevant local, state, and federal legislation.

Special needs legislation includes, but is not limited to, mandates for auxiliary aids to students, removal of architectural and equipment barriers, and non-restrictive career counseling.

### Evaluative Criteria

Special needs policies and operational procedures that comply with current local, state, and federal special needs legislation are implemented in the Avionics Maintenance Technology program.

Students who are academically and/or economically disadvantaged are provided special services and assistance to enable them to succeed in the Avionics Maintenance Technology program.

Students who have physical and/or mental impairments are provided special services and assistance to enable them to succeed in the Avionics Maintenance Technology program.

Students who are national origin minority students with limited English language skills are provided special services and assistance to enable them to succeed in the Avionics Maintenance Technology program.



Avionics Maintenance Technology program faculty are prepared, through staff development education, to provide assistance for students with special needs.

All special needs personnel meet Georgia Board of Technical and Adult Education certification requirements.

Course objectives within the Avionics Maintenance Technology program are utilized as the basis for developing an Individualized Education Program (IEP) for each handicapped student under 21 years of age enrolled in the program.



## EQUITY (Commitment)

#### Standard Statement

The Avionics Maintenance Technology program affords equal access and opportunities to all qualified students and staff.

## **Explanatory Comment**

Equal access and equal opportunity refer to the prohibition of discrimination on the basis of race, color, national origin, religion, sex, age, or handicapping condition in educational programs, activities, and employment.

The equal access and equal opportunity requirements of the Georgia Board of Technical and Adult Education meet or exceed all relevant state and federal legislation.

Equal access and equal opportunity legislation includes, but is not limited to, mandates for: equitable admissions practices, counseling, employment, grievance procedures, and leave; nondiscriminatory recruitment and promotional materials; and public notification of nondiscrimination.

#### **Evaluative Criteria**

The nondiscrimination commitment of the Avionics Maintenance Technology program complies with current Georgia Board of Technical and Adult Education policy and state and federal law.

A written institutional policy that ensures equal access to all qualified students who can safely benefit from instructional services regardless of race, color, national origin, religion, sex, age, or handicapping condition is implemented in the Avionics Maintenance Technology program.



## HEALTH AND SAFETY (Commitment)

## Standard Statement

The Avionics Maintenance Technology program provides a safe and healthy environment for students and staff.

## **Explanatory Comment**

References for proper health and safety conditions, equipment, practices, and procedures are available in Georgia Board of Technical and Adult Education policy and local, state, and federal law. Emergency and disaster plans, accident reports, and fire drill procedures are outlined in information from the State Fire Marshall's Office, the Civil Defense Division, and the Georgia Department of Human Resources.

Health and safety facility and equipment provisions required by the Georgia Board of Technical and Adult Education meet or exceed appropriate local, state, and federal law.

## Evaluative Criteria

The physical facility, furnishings, equipment, supplies, and practices of the Avionics Maintenance Technology program meet or exceed appropriate local, state, and federal health and safety standards.

Proper health and safety practices are developed, implemented, and integrated into the Avionics Maintenance Technology program.



The Georgia Board of Technical and Adult Education does not discriminate on the basis of age, sex, race, color, religion, national origin, or handicap in its educational programs, activities, or employment policies.

