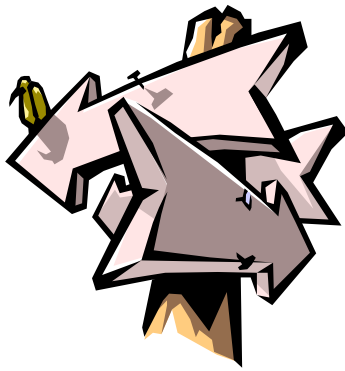


Your Pathway to a Career in



Industrial Maintenance

Provided by:

Northeast Alabama
Tech Prep Consortium

Name: _____

About Career Pathways...

Career Pathways is a partnership between your local K-12 school system and your local community college in which you:

- Learn about the career options available to you,
- Select a career pathway to follow,
- Map a plan to your chosen career path, and
- Work toward your career goal.

This guide is provided to aid you in developing and following your career pathway. Along with your high school counselor, career coach, and college advisor, you will map a course to success in your chosen field. This guide is very important to your future. By having a written plan, your opportunity for success is enhanced.

Career Pathways not only provides a plan for program completion, but also provides opportunities for high school students to earn college credit through Tech Prep partnerships and Dual Enrollment opportunities.

About Tech Prep...

Tech Prep is a component of Career Pathways. Under Tech Prep, students may receive college credit for certain technical courses taken in high school. In a Tech Prep program, students begin their course of study in high school and continue in college or an apprenticeship program.

Tech Prep programs combine the academic courses that students will need for success in college and technical courses that they need to prepare them for a career. Tech Prep is intended to improve technical and academic preparation of students and to provide a transition plan for secondary (high school) students desiring a post-secondary (two-year college) outcome in a technical field of study.

A key component of Tech Prep is articulation, which is a process linking high school course work and college course work to assist students in making a smooth transition from one level of education to another without experiencing delays or duplication in learning. The articulated high school courses contain the same course content as an equivalent college course ;and a postsecondary institution (college) has agreed to award college credit if the student meets outlined requirements in the course articulation agreement. The articulation agreement is a signed document between a high school and a college that indicates the specific responsibilities of the high school, of the college, and of the students in order for credit to be awarded.

As a Tech Prep student, you will be able to combine high school classes, real-world experience, and/or college classes, to form a balanced and practical educational experience. Tech Prep programs help you earn college credit through content-enhanced articulated

courses and dual credit.

To learn more about Tech Prep, contact your local high school or career tech center guidance counselor or visit www.altechprep.org.

About Dual Enrollment...

The purpose of Dual Enrollment is to allow eligible high school students to enroll in college classes concurrently with high school classes and to receive both high school and college credit. Students are eligible to enroll if they meet the conditions set by their local school system, are in at least the tenth grade, have a "B" average, show academic readiness and maturity, and meet the entrance requirements of the college. Eligible applicants should complete and submit two forms: "Application for Admission to the College" and "Permission to Register for Dual Enrollment/Dual Credit," which must be approved by the high school counselor, principal, and superintendent. These forms are available from high school counselors.

After the student's first term at Northeast, a new "Permission to Register" form must be submitted each term to Winnie Yates, Student Services office, prior to registering for classes. This form affirms that the student is still considered eligible and also lists the specific courses to be taken that term. Qualified applicants will be considered without regard to race, color, sex, religion, creed, national origin, age, or disability.

In compliance with State Board of Education policy, Northeast is authorized to admit eligible high school students on a Continued Conditional Status. The Conditional Status remains in effect until the student fulfills the general admissions requirements for a course creditable toward an associate degree as stated in the *Catalog* (i.e., diploma from an approved accredited high school, minimum ACT or SAT scores, or GED). The college credits earned by a high school student will be "banked," or "held in escrow," until the student meets one of the above criteria for general admissions.

Transfer of college credit is facilitated by a transfer agreement among public colleges and universities of the State of Alabama. Courses taken for Dual Enrollment/Dual Credit will count just as any other college credit. Transcripts released for students who have not yet fulfilled the general admissions requirements for a course creditable toward an associate degree will be stamped "CONDITIONAL CREDIT".

The student is responsible for paying tuition and fees at the time of registration. According to federal guidelines, Dual Enrollment students are not eligible for financial aid. The student is responsible for buying textbooks and materials, available at the college bookstore.

About Industrial Maintenance: Those who work in Industrial Maintenance—also known as Industrial Systems—like to use their hands and minds to troubleshoot, repair, and maintain industrial equipment and automation systems. In many industries, maintenance personnel are multi-skilled, which means that they can troubleshoot and repair both electrical and mechanical systems. In some larger industries, however, maintenance personnel specialize as either maintenance mechanics or electrical and instrumentation technicians. Maintenance personnel study electricity, electronics, motor controls, programmable logic controls, hydraulics, pneumatics, and many other topics that allow them to maintain complex manufacturing systems.

HIGH SCHOOL

- Take Industrial Maintenance at your local high school or career/technical center.
- Participate in SkillsUSA competitions.

Dual enrollment is an excellent way to get a head start on a career in Industrial Maintenance.

SHORT-TERM CERTIFICATE

Take these courses to earn a Short-Term Certificate in Industrial Systems Technology—Electrical & Instrumentation

Course #	Description	SH	Complete
INT 105	Intro. to Process Control	3	_____
INT 119	Principles of Mechanical Measurements & Technical Drawing	3	_____
INT 123	Concepts of Solid State Electronics	5	_____
INT 129	Industrial Safety & Maintenance Techniques	3	_____
INT 130	Concepts of Digital Electronics	5	_____
INT 158	Industrial Wiring I	3	_____
INT 221	DC Fundamentals	5	_____
INT 223	AC Fundamentals	5	_____
	Total Required for STC	28	

Once you have completed these courses, apply for the Short-Term Certificate and keep working toward the certificate and degree.

SHORT-TERM CERTIFICATE

Take these courses to earn a Short-Term Certificate in Industrial Systems Technology—Mechanical Maintenance

Course #	Description	SH	Complete
INT 117	Principles of Industrial Mechanics	3	_____
INT 118	Fundamentals of Industrial Hydraulics and Pneumatics	3	_____
INT 119	Principles of Mechanical Measurement & Technical Drawing	3	_____
INT 127	Principles of Industrial Pipes and Piping Systems	3	_____
INT 129	Industrial Safety & Maintenance Techniques	3	_____
INT 153	Precision Machining Fundamentals Substitute: Any MTT class	3	_____
INT 206	Industrial Motors I	3	_____
INT 234	Principles of Ind. Maint. Welding & Cutting Substitute: Any WDT class	3	_____
	Total Required for STC	28	

Once you have completed these courses, apply for the Short-Term Certificate and keep working toward the certificate and degree.

CERTIFICATE

Take these classes to earn a certificate.

Take all of the core classes:

Course #	Description	SH	Complete
ENG 101	English Composition I	3	_____
SPH 107	Fund. of Public Speaking	3	_____
MTH 116	Mathematical Applications (or any 100-level math)	3	_____
CIS	CIS Elective	3	_____
WKO 106	Workplace Skills	3	_____
INT 117	Principles of Industrial Mechanics	3	_____
INT 119	Principles of Mechanical Measurements & Technical Drawing	3	_____
INT 129	Industrial Safety & Maintenance Techniques	3	_____
	Core Requirement	24	

Select from one of the following options:

Electrical and Instrumentation
Electrical & Instrumentation Electives 24 hours

Mechanical Maintenance
Mechanical Maintenance Electives 24 hours

Multi-Skilled Maintenance Technician
Electrical & Instrumentation Electives 12 hours
Mechanical Maintenance Electives 12 hours

TOTAL HOURS REQUIRED FOR CERTIFICATE 48

*Electives are selected in consultation with the advisor depending on the student's area of specialization.

**See list of approved electives.

Once you have completed these courses, apply for the Certificate and keep working toward the degree.

A.A.S. DEGREE

Add these classes to those required for the Certificate to earn a degree.

Course #	Description	SH	Complete
Area II	**Humanities & Fine Arts Elective	3	_____
Area III	**Math, Science or CIS elective	3	_____
Area IV	**History, Social, & Behavioral Science Elective	3	_____
INT	Program Electives (by advisement) See below.	6	_____
	Total Required for AAS	63	

Options:

Electrical and Instrumentation
Electrical & Instrumentation Electives additional 6 hours

Mechanical Maintenance
Mechanical Maintenance Electives additional 6 hours

Multi-Skilled Maintenance Technician
Electrical & Instrumentation Electives additional 3 hours
Mechanical Maintenance Electives additional 3 hours

*Electives are selected in consultation with the advisor depending on the student's area of specialization.

**See list of approved electives.

You will need to complete an Application for Degree during your last semester.

NEXT STEPS

Go to Work...

- Manufacturing
- Apprenticeship

Continue Your Education...

- Earn a bachelor's degree

Education Pays!

An Associate's degree can help you earn approximately \$400,000 more over a career than you would with a high school diploma only.

Understanding the Degree Plan...

In Alabama, public colleges use the Articulation and General Studies Committee (AGSC)-approved general studies curriculum. This curriculum provides for seamless articulation from community colleges to Alabama's public universities. The general studies curriculum core includes study in the areas of written composition; humanities and fine arts; natural sciences and mathematics; and history, social, and behavioral sciences.

AREA I - Written Composition

Effective written communication skills are essential in a literate society. Students in most career/technical programs take ENG 101-Written Composition I.

AREA II - Humanities and Fine Arts

Study in the humanities addresses the ability to deal with questions of values, ethics, or aesthetics as they are represented in literature, philosophy, religion, and the arts, and is fundamental to general education. Courses should be broad in scope and content rather than specific and should emphasize a global perspective. Courses in the arts should emphasize history and appreciation rather than performance. Acceptable Area II electives include: ART 100, 203, 204; MUS 101; PHL 106, 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126. Always consult with your advisor and the college catalog to assure the suitability of a humanity and fine arts elective.

AREA III - Natural Sciences and Mathematics

Study in the natural sciences and mathematics emphasizes the scientific method and applies quantitative or inductive reasoning. Disciplines in the natural sciences include but are not limited to, astronomy, biology, chemistry, geology, and physics. Most career/technical programs require a math course numbered 100 or higher (typically MTH 116 or 100). (In addition, most programs require either CIS 146 specifically, a math, science, or computer science elective, or both.) Always refer to your individual program of study for specific requirements.

AREA IV - History, Social, and Behavioral Sciences

Study in history and the social and behavioral sciences deals primarily with the study of human behavior, social and political structures, and economics. Disciplines include, but are not limited to, anthropology, economics, geography, political science, psychology, and sociology. Some programs require specific courses while others only require an elective in Area IV.

AREA V - Pre-Professional, Major, and Elective Courses

These are the courses within your program of study. Some programs require specific courses, while others provide a range of options from which to choose. **THIS IS WHERE ADVICE FROM YOUR ADVISOR IS EXTREMELY IMPORTANT.** Work with your advisor to develop a plan of courses to meet your future employment needs.

Tips for Program Planning...

Start planning with the end in mind. If you want to earn an Associate in Applied Science (AAS) degree within four semesters, then you will need to pace your courses to assure that you have the appropriate number of credit hours each semester. Here is a suggested approach using sample degree requirements.

- Since Area V requires the most hours, you should start your planning there. Once you select your Area V courses, you can add courses from Areas I—IV to fill in the blanks.
- Some programs require you to start in specific foundational courses. Your advisor can show you which classes you should take the first and subsequent semesters.
- By dividing the number of hours needed in each area by the number of semesters you plan to attend, you can determine how many hours you should be taking in each area each semester. Using the example shown here, you would need to break your classes down in this format.
- Using the example shown here, your degree plan might look something like this:

Sample Degree Requirements	
Area I	3 hours
Area II	6 hours
Area III	9 hours
Area IV	3 hours
Area V	42 hours
Total	63 hours

Sample Degree Requirements		
Area	Hours Req.	Per sem.
Area I	3 hours	0.75
Area II	6 hours	1.5
Area III	9 hours	2.25
Area IV	3 hours	0.75
Area V	42 hours	10.5
Total	63 hours	15.75

	First Semester	Second Semester	Third Semester	Fourth Semester
Area I	3 hours	0 hours	0 hours	0 hours
Area II			3 hours	3 hours
Area III		3 hours	3 hours	3 hours
Area IV	0 hours	0 hours	3 hours	0 hours
Area V	12 hours	12 hours	9 hours	9 hours

While this is only a guide, perhaps you can see the importance of planning your program of study so that you are able to take the number of hours you need each semester to complete your program in the allotted time.

This guide provided by:

Northeast Alabama Tech Prep Consortium
DeKalb County Schools **Fort Payne City Schools**
Jackson County Schools **Scottsboro City Schools**
Northeast Alabama Community College