

## *Quality Technology Fundamentals - Certificate*

(Manufacturing Technology – Associate Degree path)

This certificate program is designed to equip students with the foundational skills and knowledge necessary to enter the field of quality inspection. Through a blend of classroom lecture and hands-on experience, students will learn blueprint reading, the proper use of dimensional inspection equipment and nomenclature instruments, and measurement tools and techniques. Advanced dimensional inspection equipment, statistical process control, commonly used quality standards and guidelines, and the interpretation of geometric dimensions and tolerances will also be covered.

This program is designed to prepare students for success in careers in quality inspection. As manufacturing and related industries continue to expand and evolve, quality inspectors will be in demand to examine, assess, and measure parts and products for conformance to prescribed specifications. This program is a good fit for individuals who enjoy working with their hands, with an emphasis on troubleshooting, problem solving, and mechanical reasoning. Those who graduate with this certificate have a foundational knowledge of the quality standards, guidelines and techniques used in modern industry.

A certificate will be awarded to students who successfully complete the following courses:

### Career Preparation and Related Courses

		SUGGESTED SEQUENCE				CREDIT HOURS	CONTACT HOURS
ATQT 1000	Quality Inspection Fundamentals	■	□	□	□	2	32
ATQT 1050	Quality Standards & Core Tools	■	□	□	□	2	32
ATDD 1950	Drafting Essentials	■	□	□	□	2	32
ATQT 1010	Quality Inspection—Advanced Techniques	□	■	□	□	2	32
ATDD 1960	Conventions & Symbols	□	■	□	□	2	32
ATQT 1030	Applied Statistical Process Control	□	□	■	□	2	32
ATDD 1920	Geometric Dimensioning & Tolerancing Fundamentals	□	□	■	□	2	32
ATQT 1060	Coordinate Measuring Machine (CMM) Introduction	□	□	■	□	3	48
<b>Total</b>						<b>17</b>	<b>272</b>

In cases where prior training or education is documented, specific courses may be substituted for one or more of the above courses as conditions warrant. Suggested alternate courses, which may also be used as electives toward an associate degree, are listed below for consideration. Contact the Applied Technology and Apprenticeship Department for details.

### Suggested Alternate / Elective Courses:

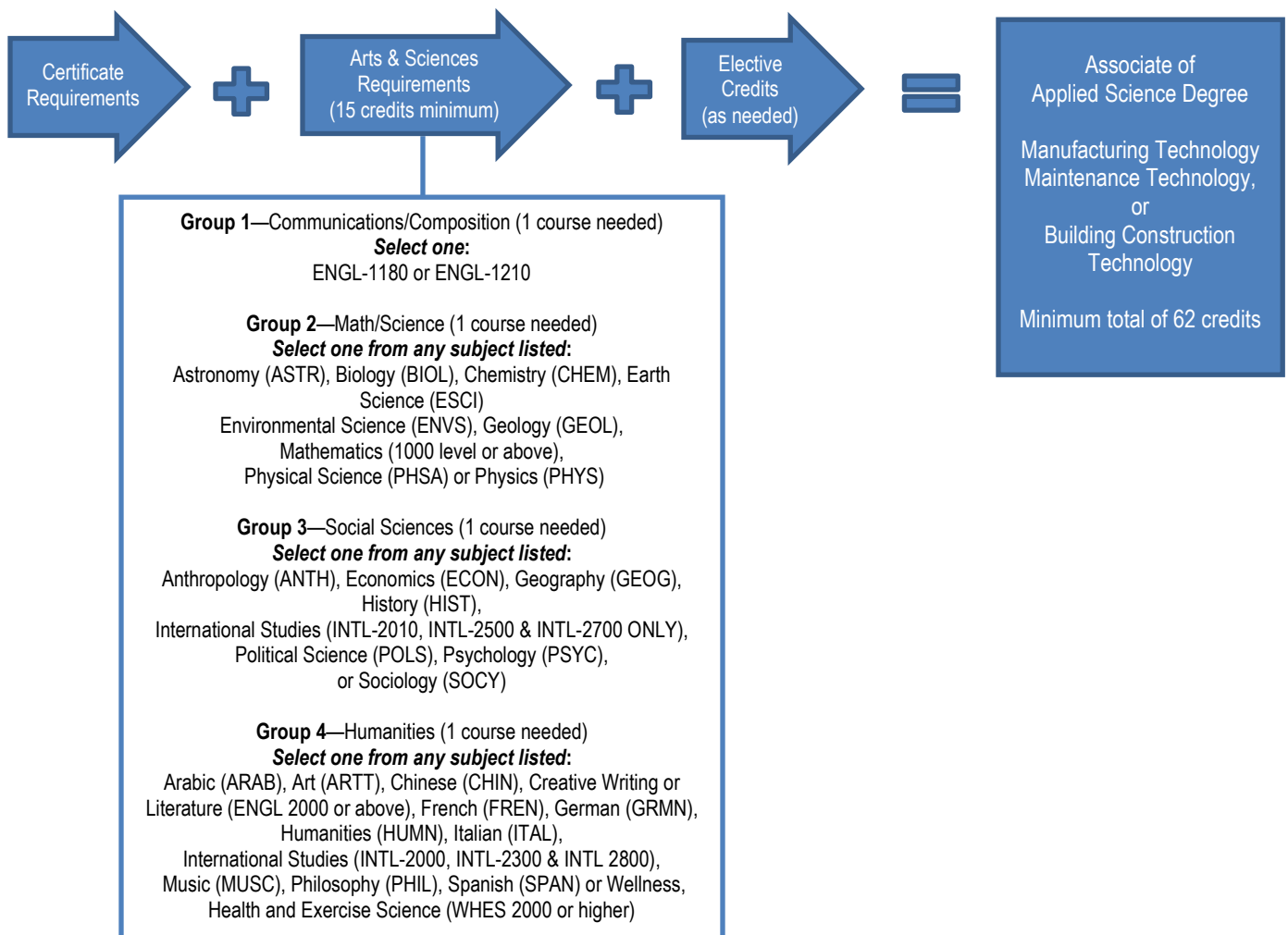
ATMT 1300	Metallurgy—Characteristics of Ferrous Metals	ATMT 1700	Thermoplastic & Thermosetting Materials
ATMT 1310	Metallurgy—Characteristics of Non-Ferrous Metals	ATMT 1750	Plastic Product Design & Tooling
ATAP 1050	CNC Essentials	ATAP 2010	Drafting—2D CAD with MasterCAM
ATAP 2380	Rapid Prototyping & Reverse Engineering	ATTR 1600	Industrial Safety—Skilled Trades
ATMT 1150	Machine Theory—Machine Tool Laboratory 1	ATTR 1150	Technical Report Writing

**SEE SECOND PAGE/REVERSE SIDE FOR ASSOCIATE DEGREE REQUIREMENTS**

## Associate of Applied Science Degree Requirements (Minimum 62 credit hours)

An Associate of Applied Science Degree is offered for those enrolled in or completing an Apprenticeship, Employee-In-Training, or General Certificate Program. Other college requirements apply, including the completion of the arts and sciences (general education) requirements, as well as attaining a minimum overall total of 62 credit hours. See Apprentice Coordinator or Advisor for details.

Students may graduate with an Associate of Applied Science Degree in Manufacturing Technology, Maintenance Technology or Building Construction Technology, depending on the Apprenticeship, Employee-In-Training or General Certificate Program area of specialty.



\*\*Information is subject to change. Please visit [www.macomb.edu](http://www.macomb.edu) for the most current information.\*\*

For more information on the Quality Technology Fundamentals Certificate Program at Macomb, contact the Applied Technology and Apprenticeship Department at 586.445.7438 or [apprenticeship@macomb.edu](mailto:apprenticeship@macomb.edu).