25. Precision Metalwork – 2403-2499

This subject area encompasses courses that concern the knowledge and skills involved in shaping objects out of metal, including machining and welding.

2403 Machining - Recommended for Students Grades 9 - 12 - Course enables students to create machine parts using various machine tools and equipment. Course content may include interpreting specifications for machines using blueprints, sketches, or descriptions of parts; preparing and using lathes, milling machines, shapers, and grinders with skill and safety; developing part specifications; and selecting appropriate materials.

2404 Particular Topics in Machining - Recommended for Students Grades 9 - 12 - Course provides instruction in specific aspects of machining. The course may emphasize a particular type of machine, tool, or procedure, or may concentrate on a particular industrial application of machining techniques.

2412 Metalworking - Recommended for Students Grades 9 - 12 - Course introduces students to the qualities and applications of various metals and the tools used to manipulate and form metal into products. Through one or more projects involving metals, students develop planning, layout, and measurement skills; gain experience in cutting, bending, forging, casting, and/or welding metal; complete projects according to blueprints or other specifications; and may learn to polish and finish metals. Correct use of metalworking tools and equipment is stressed.

2413 Sheet Metal - Recommended for Students Grades 9 - 12 - Course exposes students to the skills and information necessary to layout, fabricate, assemble, install, maintain, and repair items and structures created from sheet metal components. Students learn the safe and efficient operation of various tools, and typically gain skill in blueprint reading; welding; and finishing and polishing metals.

2414 Welding 1 - Recommended for Students Grades 9 - 12 - Course introduces students to the properties, uses, and applications of various metals. Welding courses provide experience in various processes used to join and cut metals (such as oxyacetylene, shielded metal arc, metal inert gas and tungsten arc processes) and the proper use of each technique. Courses often include instruction interpreting blueprints or other types of specifications.

2415 Particular Topics in Welding - Recommended for Students Grades 9 - 12 - In these courses students gain knowledge and skills of particular aspects of welding. Examples include individual courses in each of the following types of welding: gas metal arc welding, gas tungsten arc welding, and shielded metal arc welding.

2416 Welding 2 Grades 9 -12 - This is a second sequential course in a welding program of study meant to take a student into higher level knowledge and skill development.

2417 Welding 3 Grades 9 – 12 - This is a third sequential course in a welding program of study meant to take a student into higher level knowledge and skill development.

2495 Precision Metalwork - Related Subjects - Recommended for Students Grades 9 - 12 - Course provides students with related skills and knowledge necessary or desirable for careers

in welding or machine technologies. The presentation of particular topics and skills, or their applications, may vary with the occupation or technology. For example, mathematics for welding students may differ in some respects from mathematics for machining students.

2496 Precision Metalwork - Independent Study - Recommended for Students Grades 9 - 12 - Course, often conducted with instructors as mentors, enables students to explore metal related topics of interest in greater depth and detail. Independent Study courses may serve as an opportunity to expand expertise in a particular industry application, to explore a topic of special interest within a related industry, or to develop greater machining skills.

2497 Precision Metalwork - OJT - Recommended for Students Grades 9 - 12 - Course, work experience is gained within the welding or machine technologies field. Although the student, teacher, and employer may set goals cooperatively, classroom attendance/experience is not an integral part of the Precision Metalwork-OJT experience.

2498 Precision Metalwork - Co-Op - Recommended for Students Grades 9 - 12 - Course provides work experience in the welding or machine technologies field, and is supported by classroom attendance and discussion. Goals are set for the employment period; classroom experience may involve further study in the field, improvement of employability skills, or discussion regarding the experiences and problems encountered on the job.

2499 Precision Metalwork - Other - Recommended for Students Grades 9 - 12 -