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# CONSTRUCTION TECHNOLOGIES

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## B. STRAND RATIONALE AND PHILOSOPHY

The products of construction and manufacturing are a reflection of the needs and wants of society. For centuries, people have built structures and made objects to provide protection from the elements, to make work easier and to make life more enjoyable.

Today, our social and economic well-being is still closely linked to our ability to transform materials into useful products. Therefore, it is important that as students prepare for their futures, they should understand how the construction and manufacturing industries organize themselves and apply technology in productive ways.

In Alberta, the construction and manufacturing sectors of the economy are characterized by relatively small entrepreneurial businesses that make products for domestic and foreign market needs.

In recent years, dramatic changes have occurred in the way buildings and other products have been designed and built. With the aid of new techniques, architects and engineers are now able to simulate and evaluate designs with extreme accuracy. This precision translates into stronger structures, smaller tolerances, less waste and the need for a highly trained and flexible work force.

Construction Technologies, a strand in Career and Technology Studies, has been developed to help

meet this educational need. Students selecting modules from this strand have the opportunity to investigate and develop important knowledge, skills and attitudes relative to the design, construction and maintenance of buildings and other related products.

Students are provided with a broad base of relevant theory and practice that builds daily-living and career-specific skills. Successful completion of modules in this strand is intended to provide students with the skills and experience required for entry-level employment or for pursuing post-secondary education. This preparation is accomplished by encouraging students to:

- develop safe work and environmental practices
- develop self and resource management skills
- work with a variety of technologies and technological systems
- communicate and work as effective team members
- develop ethical work habits and relationships
- creatively seek practical solutions to problems

- develop consumer and life skills
- identify further educational and career opportunities.

Within the philosophy of Career and Technology Studies, *students* in Construction Technologies *will*:

- appreciate the importance of the construction and manufacturing industries in relationship to our personal, social and economic well-being
- demonstrate a working knowledge of materials, tools and processes that are used to create buildings and other related products that meet the needs and wants of society
- apply effective and responsible decision-making skills in the design and construction of buildings and durable goods
- develop positive attitudes toward individual and team work responsibilities, quality production and service
- develop an appreciation for health, safety and environmental issues related to construction and manufacturing
- appreciate the need for legislation and codes that regulate building construction and manufacturing activities
- link, in meaningful and practical ways, the knowledge, skills and attitudes developed in other strands and courses to this strand
- assess personal interests and abilities related to making realistic career choices.

## STRAND ORGANIZATION

### THEMES

The Construction Technologies model, shown below, has been developed around two themes that are central to the transformation of material into useful products and structures. These themes are:

- Building Systems (Processes and Applications)
- Manufacturing Systems (Processes and Applications).

Integrating concepts, shown on the model, provide a basic framework for the study of each module.

The context in which the learning takes place varies according to the available resources, background experience and intent of the learner. As the student is engaged in the learning activities in the school or in the community, specific outcomes are anticipated. These outcomes take the form of basic and career-specific knowledge, skills and attitudes that have been constructed by the learner.



