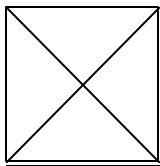


**Industrial and Technology  
Education  
Career Path Guide  
and Model Curriculum  
Standards**

*Prepared by the*  
California Department of Education



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# Contents

Foreword .....	iv
Preface .....	v
Acknowledgments .....	vi
Industrial and Technology Education Resource People .....	xiii
Introduction .....	xv
Chapter 1 Industrial and Technology Education Career Path Guide .....	1
Chapter 2 Industrial and Technology Education Model Curriculum Standards .....	31
Chapter 3 Technology Education for Children Standards .....	39
Chapter 4 Exploring Technology Education Standards .....	43
Chapter 5 Technology Core Standards .....	47
Chapter 6 Construction Technology Standards .....	55
Chapter 7 Drafting Technology Standards .....	85
Chapter 8 Electronic Technology Standards .....	93
Chapter 9 Engineering Technology Standards .....	101
Chapter 10 Graphic Communications Technology Standards .....	105
Chapter 11 Manufacturing Technology Standards .....	111
Chapter 12 Transportation and Energy Technology Standards .....	119
Glossary of Terms .....	163
Selected References .....	165

# Foreword

Industrial and Technology Education in California is a kindergarten-through-university career pathway of well-planned experiences. These experiences prepare students for successful transition to the workforce; participation in the home, community, and workplace; and the pursuit of lifelong learning.

Students who complete the meaningful sequence of strong industrial and technology education courses are realistically prepared for a meaningful, productive life. They have clear career goals and move on to postsecondary education, advanced training, or full-time employment. They understand that they will need to continue their education throughout their lives and that although what they know may be important today, they will succeed in the workforce only through what they can learn and do in the future.

Work is an important part of everyone’s life. Whether that work is meaningful, satisfying, and gratifying or “just a job” is the difference between a fulfilling life and one that is routine. Industrial and Technology Education prepares people for life and for worthwhile work in a world that needs their best efforts. This preparation is provided within the context of a learning continuum wherein a student will be able to plan intelligently and properly for a career goal.

The *Industrial and Technology Education Career Path Guide and Model Curriculum Standards* is one document in a series of related documents and resources that together describe all components of the learning continuum. The purpose of this Industrial and Technology Education document is to (1) describe the role and contribution of industrial and technology education in achieving objectives of education for the future; and (2) provide in one document a clear overview of the curriculum, including characteristic industrial and technology education career paths.

DELAINE EASTIN  
*State Superintendent of Public Instruction*

# Preface

This document is central to the statewide education reform movement. It provides a fundamental structure against which to measure curricular and instructional change throughout the kindergarten-through-twelfth-grade public school system and provides a basis for successful change. It gives a clear overview of the curriculum, career paths, and characteristics of each of the career path clusters and describes the role and contribution Industrial and Technology Education (ITE) can make in achieving the important objectives of education for the next century.

This document, like the other Career–Vocational Education (C–VE) documents describing career path guides and model curriculum standards (such as those on agriculture, business, health careers, and home economics) and the curriculum frameworks (mathematics, science, English–language arts, history–social science, visual and performing arts, foreign language, and physical education) incorporates common collaborative learning concepts and instructional strategies; critical thinking and conceptual understanding; problem solving based on real-life problems; active-learning and activity-based instruction; and contextualized, collaborative, and interdisciplinary learning. ITE and the other C–VE disciplines specifically encourage students to translate facts and ideas into relevant application and action while achieving higher-level critical thinking skills. These career path guides and model curriculum standards provide California students with a unique foundation for learning.

# Acknowledgments

The *Industrial and Technology Education Career Path Guide and Model Curriculum Standards* was drafted, reworked, and prepared for dissemination by industrial and technology education professionals and friends from business and industry throughout the state. Statewide career path task force management and document coordination was provided by Richard Dahl, Industrial and Technology Education Consultant, California Department of Education. Document drafts were prepared under the able direction of Ruth Schilling, Task Force Secretary, Contra Costa County Regional Occupational Program.

This document reflects the original and ongoing efforts of more than 2,000 individuals who contributed to the original 1990 publication and the efforts of many new friends of industrial and technology education who have contributed significantly to this new edition. The names of those involved in the development of this document are as follows:

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# Introduction

The *Industrial and Technology Education Career Path Guide and Model Curriculum Standards* is a dynamic document providing direction and coherence for collaborative program and curriculum development. The national initiatives and state educational reform movements during the past ten years have influenced the thousands of industrial and technology leaders throughout the State of California who worked in a deliberate and collaborative effort to produce this document, which promotes a challenging curriculum to meet the needs of all students entering the twenty-first century.

Industrial and Technology Education (ITE) in California is one of five Career–Vocational Education (C–VE) disciplines. The five disciplines—Agriculture, Business, Home Economics, Health Careers, and Industrial and Technology Education—combine theory with practical applications, blending the best of contextual and academic learning. Students are encouraged to translate facts and ideas into relevant application and action while they achieve higher-level critical thinking skills through rigorous questioning and execution of ideas. In addition to pursuing academic and C–VE core courses that provide a foundation for learning, students participate in vocational student organizations in which they develop leadership, citizenship, and interpersonal skills. Workplace learning experiences are provided in a variety of ways as a structured link between the classroom and the workplace. Responsibility and training are combined with theoretical learning so that students can form meaningful connections between their school learning and the world of work.

As career–vocational educators, industrial and technology education leaders recognize that schools must shift to an outcome-based approach that meets the demands of an information-based, global economy. To strengthen the quality of California schools, educators must rethink traditional approaches—building on what works and discarding what does not. This document provides curriculum standards for industrial and technology education as a basis for successful change. It includes a clear overview of the curriculum, career paths, and characteristics of each of the industrial and technology education curriculum clusters and describes the role and contribution ITE can make in achieving important objectives of education for the next century. This document contains program elements that promote the integration of instructional strategies from such disciplines as history–social science, English–language arts, mathematics, science, and the visual arts. As a source of world-of-work contexts for learning, the High School Curriculum Development and Academic Expectations Office has emerged as a powerful instructional resource within the Curriculum and Instructional Leadership Branch of the California Department of Education.

The *Industrial and Technology Education Career Path Guide and Model Curriculum Standards* document aims to (1) establish guidelines and provide direction to help districts revise their curricula, evaluate their programs, assess their instruction, and develop instructional strategies; (2) serve as a resource for preservice and in-service education of teachers and administrators; and (3) make information on curricula available to parents and the general public.

This document is consistent with the Education Reform Act of 1983 (Senate Bill 813), a far-reaching reform measure designed to improve financing, curriculum, textbooks, testing, and teacher and administrator training in the state’s elementary and secondary schools. This law specifically requires the State Superintendent of Public Instruction to publish a model curriculum on a cyclical basis and requires high school districts to compare their curricula with the state model every three years. The *Industrial and Technology Education Career Path Guide and Model Curriculum Standards* document is the model for industrial and technology education curricula—kindergarten to workforce.

The document is organized as follows:

Chapter 1 describes essential program and curriculum elements in industrial and technology education programs. These elements include:

1. Curricular paths to work and postsecondary education
2. Powerful teaching and learning
3. Program and student assessments
4. Development and implementation of quality programs

Chapter 2 defines and discusses four key elements—three types of standards and examples of selected activities—found in a standards-derived, integrated curriculum. Those elements must be reviewed concurrently with any of the subsequent chapters and are as follows:

1. Career-technical performance standards
2. Career performance standards
3. Academic performance standards
4. Integrated performance activities

Chapters 3 through 12 provide model curriculum standards and illustrative integrated performance activities for Technology Education for Children; Exploring Technology Education; Technology Core; and the seven career path clusters, each of which includes such instructional delivery systems as cluster-specific introductory courses, technical preparation courses, apprenticeship courses, and student certification.

The Glossary of Terms and the Selected References, listing general resources and specific resources for Industrial and Technology Education, follow the main body of this document.

*The Industrial and Technology Education Career Path Guide and Model Curriculum Standards* serves the needs of a diverse audience. Legislators and other State of California leaders will gain insight into the breadth, complexity, and diversity of ITE programs by reviewing the document. Supervisors, department chairs, principals, and other administrators responsible for implementing ITE programs will be able to focus on the scope, sequence, and collaborative elements of the programs that have a direct impact on program restructuring and curriculum integration activities. Teachers, teachers-in-training, curriculum specialists, teacher educators, curriculum publishers, and reviewers will find this document useful in the ongoing development, implementation, and evaluation of curriculum.