



## The 16 Career Clusters

Agriculture, Food & Natural Resources  
Architecture & Construction  
Arts, A/V Technology & Communications  
Business, Management & Administration  
Education & Training  
Finance  
Government & Public Administration  
Health Science  
Hospitality & Tourism  
Human Services  
Information Technology  
Law, Public Safety & Security  
Manufacturing  
Marketing, Sales & Service  
Science, Technology, Engineering & Mathematics  
Transportation, Distribution & Logistics



**STATE**  **DIRECTORS**

National Association of State Directors  
of Career Technical Education Consortium

©2003

[careerclusters@careerclusters.org](mailto:careerclusters@careerclusters.org)

[www.careerclusters.org](http://www.careerclusters.org)



Assisting students as they  
prepare for college and careers  
in Arts, Audio-Video  
Technology & Communications



## Career Clusters Prepare all Students for College and Careers

Career Clusters prepare students for the information age as schools are striving for higher achievement in science, math and communication. One key to improving student achievement is providing students with relevant contexts for learning. Career Clusters offer a context for learning by linking what students learn in school with the knowledge and skills they need for success.

### The Concept of Career Clusters

Career Clusters identify the knowledge and skills students need as they follow a pathway towards their career goals. The knowledge and skills identified form a strong foundation needed by students for success whether in high school, a post-secondary institution or at the workplace.

### How to Pursue an Education in Art, Audio-Video Technology & Communications

This cluster offers two different avenues of concentration.

Careers in the Performing Arts, Visual Arts, or certain aspects of Journalism, Broadcasting and Film require courses and activities

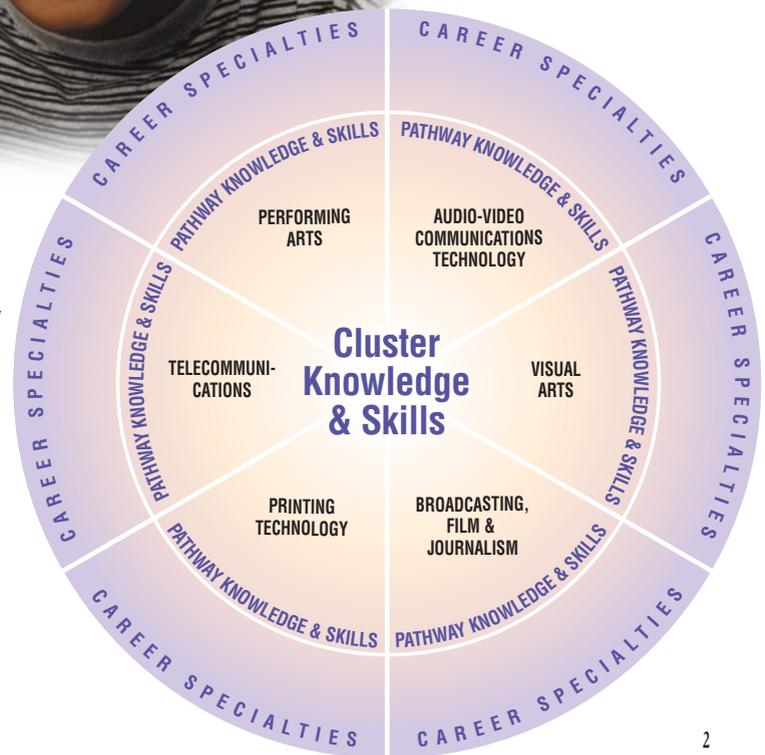
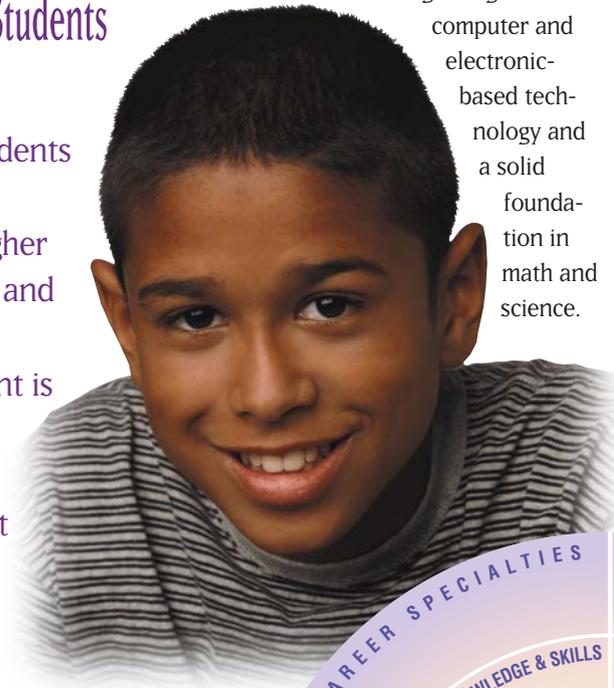
that challenge students' creative talents.

Careers in Audio-Video Communications Technology, Telecommunications, or Printing technology require strong backgrounds in computer and electronic-based technology and a solid foundation in math and science.

All pathways require the ability to communicate effectively in both oral and written form. In addition, the creative aspects of this cluster are rapidly merging with the technological, making it even more challenging.

Preparation for careers in this cluster must begin in the elementary grades and continue through high school, allowing students to gain experience in the performing and visual arts as well as in the academic foundations.

### Making the Art, Audio-Video Technology & Communications Career Cluster Work for You



## Career Pathways at a Glance

Art, Audio-Video Technology & Communications careers are divided into six pathways; Audio/Video, Communications Technology, Broadcasting, Film, Journalism, Performing Arts, Printing Technology, Telecommunications and Visual Arts. Each of these pathways offers exciting and challenging career opportunities.

### Audio-Video Communications Technology

#### Overview

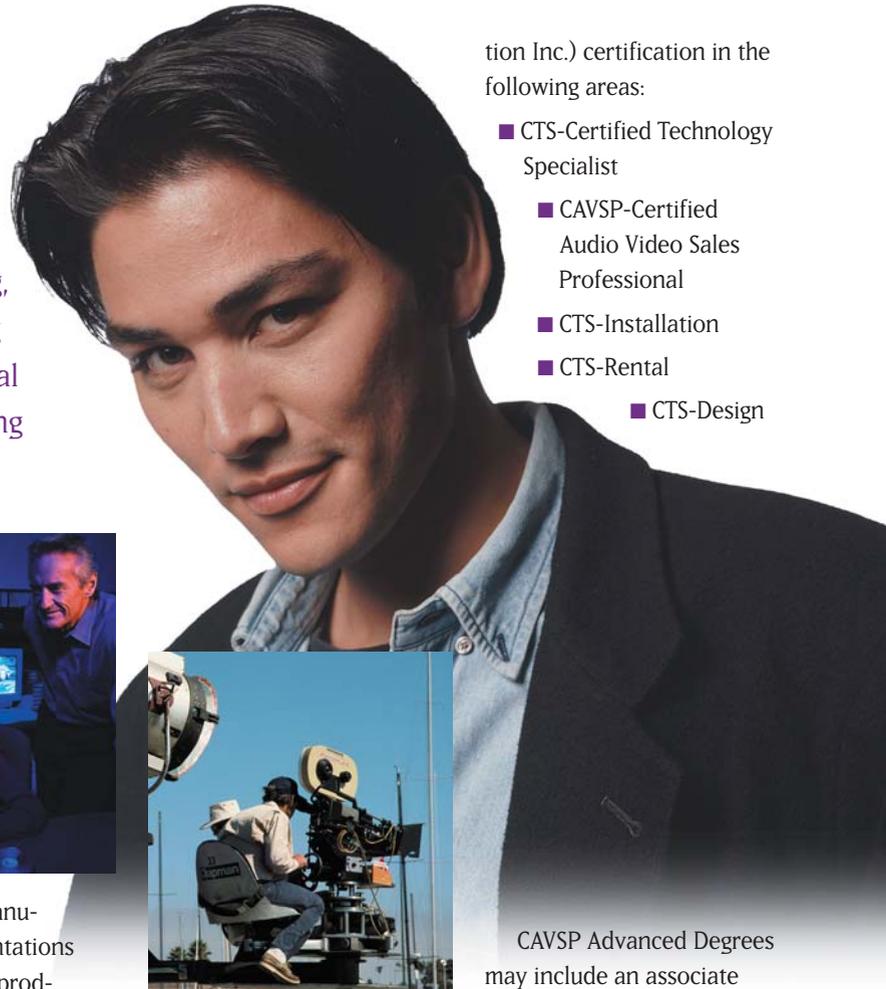
Broadly, individuals that work in the AV communications industry manufacture, sell, rent, design, install, integrate, operate, and repair the equipment of audiovisual communications. They are involved in the presentation of sound, video, and data to groups in such venues as corporate boardrooms, hotels, convention centers, classrooms, theme parks, stadiums, and museums. The major activity sectors in the AV communications industry are distributive service firms (AV dealers, rental companies, consultants, designers,



and related firms), manufacturers of AV presentations and communications products, and large end-users.

#### Sample Occupations

- Audio-visual systems technician
- Audio technician
- Sound board operator
- Video technician
- Lighting technician
- Installer/installation engineer/rigger
- Service technician



tion Inc.) certification in the following areas:

- CTS-Certified Technology Specialist
  - CAVSP-Certified Audio Video Sales Professional
  - CTS-Installation
  - CTS-Rental
  - CTS-Design

CAVSP Advanced Degrees may include an associate degree in electronics or electrical engineering or bachelor's degree in mechanical or electrical engineering.

#### Job Outlook

Most observers expect the job growth rate within AV industries to be at 20-30% for the foreseeable future. In just the AV systems technician field, the industry could expect to add 20,600 jobs annually.

- Service repair technician
- Field technician
- Electrical engineer
- Mechanical engineer
- Project manager
- Dealer manager/owner.

#### Sampling of Post-secondary Certificates and Degrees

Certificates may include ICIA (International Communications Industries Associa-

## Broadcast, Film, and Journalism

### Overview

News analysts, reporters, and correspondents gather information, prepare stories, and make broadcasts that inform us about local, state, national, and international events; present points of view on current issues; and report on the actions of public officials, corporate executives, special interest groups, and others who exercise power.

Broadcast and sound technicians install, test, repair, set up, and operate the electronic equipment used to record and transmit radio and television programs, cable programs, and motion pictures. Chief engineers, broadcast field supervisors, and transmission engineers supervise the technicians who operate and maintain broadcasting equipment.

### Sample Occupations

- Chief engineer
- Transmission engineer
- Broadcast field supervisor
- Broadcast and sound technician
- Camera operator
- News analyst
- Reporter
- Correspondent.



### Sampling of Post-secondary Certificates and Degrees

- Certification by the Society of Broadcast Engineers
- Engineering Degrees
- BA in Journalism, Broadcast News, and/or Speech

### Job Outlook

Announcers hold about 60,000 jobs at present. News analysts, reporters, and correspondents hold approximately 67,000 jobs presently, while broadcast and sound technician jobs number about 37,000.

## Performing Arts

### Overview

A variety of businesses and groups involved in theatrical and musical performances are included in this pathway. Theatrical production companies, for example, coordinate all aspects of producing a play or theater event. Agents represent actors and assist them in finding jobs. Costume design management companies design costumes. Lighting and stage crews handle the technical aspects of productions. Also in this segment are dance studios, schools, and halls, which provide places for professional and amateur dancers to practice, perform, and learn. Performers of live musical entertainment include musical artists, dance bands, orchestras, jazz musicians, and various modern bands. Orchestras range from major professional orchestras with million-dollar budgets to community orchestras often with part-time schedules.



### Sample Occupation

- Actor/actress
- Lighting designer
- Set designer
- Stage crew
- Instrumentalist
- Musician
- Singer
- Conductor
- Dance instructor
- Voice instructor
- Playwright
- Scriptwriter
- Others in Performing Arts related businesses.



### Sampling of Post-secondary Certificates and Degrees

All levels of postsecondary degrees and certificates are available from Associate to Ph.D. in many areas such as:

- Stage Management
- Music
- Dance

- Theater Arts
- Speech
- Education
- Arts Administration.

### Job Outlook

Actors, directors, and producers hold about 160,000 jobs in motion pictures, stage plays, television, and radio. Professional dancers and choreographers hold an average of about 29,000 jobs at any one time. Musicians, singers, and related workers hold about 273,000 jobs presently.



## Printing Technology

### Overview

The printing process has three stages—prepress, press, and binding or postpress. Prepress workers prepare material for printing presses. They perform a variety of tasks involved with transforming text and



pictures into finished pages and making printing plates of the pages. Desktop publishing poses new challenges for



the printing industry. The printing industry is rapidly moving toward complete "digital imaging," by which customers' material received digitally is converted directly into printing plates. Other innovations in prepress work are digital color page makeup

systems, electronic page layout systems, and off-press color proofing systems. Printing press operators prepare, operate, and maintain the printing presses in a pressroom. In most shops, press operators also perform preventive maintenance. Computers allow press operators to perform many of their tasks

electronically. With this equipment, press operators monitor the printing process on a control panel or computer monitor, which allows them to adjust the press electronically.

### Sample Occupations

- Desktop publishing specialists
- Job printers
- Platemakers
- Press operators.

### Sampling of Post-secondary Certificates and Degrees

- Associate Degree in Printing Technology
- Apprenticeship Certificate

### Job Outlook

Prepress workers hold about 135,000 jobs and press operators hold about 253,000 jobs presently.

## Telecommunications

### Overview

Telecommunications specialists focus on the interaction between computer and communications equipment. Telecommunications equipment is computerized and can communicate a variety of information, including data, graphics, and video. The workers who set up and maintain this sophisticated equipment are telecom

### Sample Occupations and Careers in this Path

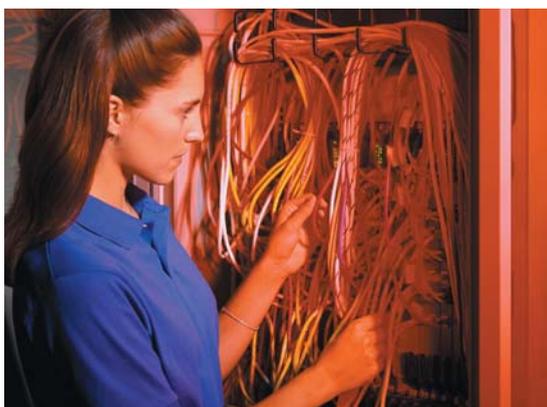
- Central office installers
- Network technicians
- Telecommunications specialists.

### Sampling of Post-secondary Certificates and Degrees

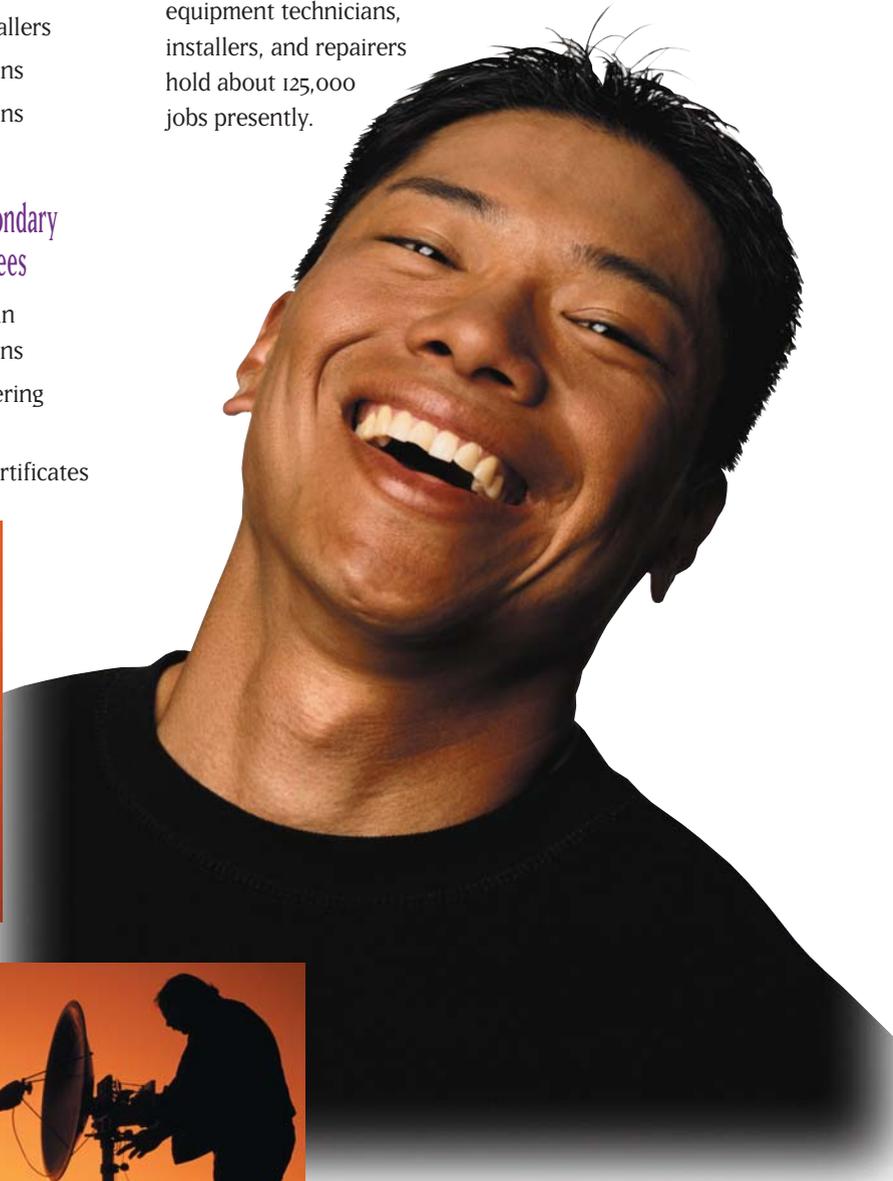
- Associate Degree in Telecommunications
- Electronic Engineering Degrees
- Apprenticeship Certificates

### Job Outlook

Telecommunications equipment technicians, installers, and repairers hold about 125,000 jobs presently.



communications equipment technicians, installers, and repairers.



## Visual Arts

### Overview

Visual artists create art to communicate ideas, thoughts, or feelings. They use a variety of methods—painting, sculpting, or illustrating—and an assortment of materials, including oils, watercolors, acrylics, pastels, pencils, pen and ink, photography, plaster, clay, and computers. Their works may be realistic, stylized, or abstract and may depict objects, people, nature, or events.

Visual artists are generally categorized in two groups. Fine artists create art to satisfy their own need for self-expression. Illustrators and graphic designers, on the other hand, put their artistic skills at the service of commercial clients, such as major corporations;

retail stores; and advertising, design, and publishing firms.



### Sample Occupations

- Painter
- Sculptor
- Print maker
- Illustrator
- Fashion artist
- Cartoonist
- Animator
- Graphic designer
- Commercial photographer
- Art director

- Art teacher
- College professor
- Computer artist
- Gallery owner
- Curator
- Textile designer
- Interior designer
- Set designer
- Visual information specialist.

### Sampling of Post-secondary Certificates and Degrees

- Associate Degree in Graphic Design
- BA, or BFA, MA, or MFA in Photography, Advertising, Art Therapy, Architecture & Drafting, Museum Management, Jewelry, Commercial Art, Technical Illustration, Floral Design, Web Design, Graphic Design
- BA in Art Education or MA in Education
- Teaching Certification with concentration in Art
- Ph.D. in Art History

### Job Outlook

Visual artists hold about 308,000 jobs presently. Nearly 6 out of 10 are self-employed. Self-employed visual artists either are graphic designers who freelance, offering their services to advertising agencies, publishing houses, and other businesses; or fine artists who earn income when they sell a painting or other work of art.