



Health Science and Medical Technology Industry Sector

Health Science and Medical Technology continue to be one of the fastest-growing industry sectors in California, offering numerous opportunities and benefits. Of the more than 300 careers within this sector, about 41 percent require professional-level preparation; about 33 percent, technical-level preparation; and 26 percent, assistant-level preparation. The Health Science and Medical Technology pathways and careers offer options to match a variety of the aptitudes, interests, abilities, and academic achievement of students. Wages and salaries are projected to increase by 27 percent through 2014, and employment is expected to account for about 3.6 million new jobs—19 percent of all jobs to be added to the economy by 2014.

The career pathways are grouped in functions that have a common purpose and similar attributes: Biotechnology Research and Development, Diagnostic Services, Health Informatics, Support Services, and Therapeutic Services. Standards for each career path build on and continue the Health Science and Medical Technology foundation standards, providing more complexity, rigor, and career specificity. And each career pathway includes standards needed for all careers within that pathway.

Health Science and Medical Technology Industry Sector Pathways:

- *Biotechnology Research and Development*
- *Diagnostic Services*
- *Health Informatics*
- *Support Services*
- *Therapeutic Services*

Entry Level Careers

(with high school diploma)

Physical Therapy Assistant
 Respiratory Care Practitioner
 Optometric Assistant
 Medical Assistant
 Medical Office Secretary
 Home Health Aide
 Laboratory Assistant
 Pharmacy Aide
 Dental Assistant
 Medical Equipment Preparers
 Personal and Home Care Aide
 Psychiatric Aides
 Veterinary Assistants
 Laboratory Animal Caretakers
 Biotechnology Assistant
 Central Supply Aide
 Geriatric Assistant

Technical Level Careers

(with AA or AS degree or certificate)

Certified Nursing Assistant - CNA
 Pharmacy Technician
 Registered Nurses (2 yr)
 Paramedic
 Operating Room Technician
 Medical Records Technician
 Emergency Medical Technician - EMT
 Licensed Vocational Nurse - LVN
 Radiology Technologist
 Dental Lab Technician
 Respiratory Therapists
 Cardiovascular Technologists
 Dental Hygienist
 Diagnostic Medical Sonographers
 Biomedical Technician
 Environmental Services Technician
 Gerontologist

Professional Level Careers

(with BS or BA degree)

Surgeons
 Speech-Language Pathologists
 Registered Nurses (4 yr)
 Pharmacists
 Physicians
 Orthodontists
 Nurse Practitioner
 Anesthesiologists
 Athletic Trainers
 Dietitians and Nutritionists
 Clinical Trials Researcher
 Biomedical Chemist
 Geneticist
 Health Services Administrator
 Industrial Hygienist
 Materials Management Supervisor
 Medical/Public Health Social Workers



Support Services Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Environmental Health Specialist+ Bachelor's Degree or Higher
<ul style="list-style-type: none"> Introduction to Health Careers I Introduction to Health Careers II Introduction to Hospital Occupations 	<ul style="list-style-type: none"> Medical Terminology Structure and Function 	<ul style="list-style-type: none"> Hospital Support Services Maintenance and Supply Technician Medical Transporter 	<ul style="list-style-type: none"> Central Supply Aide Environmental Services Assistant 	<ul style="list-style-type: none"> Central Supply Technician+ Environmental Services Technician+ Mortician+ 	<ul style="list-style-type: none"> Industrial Hygienist+ Materials Management Supervisor+ Nursing Home Administrator+

Therapeutic Services Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> Introduction to Health Careers I Introduction to Health Careers II Introduction to Hospital Occupations 	<ul style="list-style-type: none"> Hospital Occupations II Medical Terminology Structure and Function 	<ul style="list-style-type: none"> Certified Nursing Assistant Dental Assistant Emergency Medical Technician Medical Assistant 	<ul style="list-style-type: none"> Certified Nurses Assistant+ Emergency Medical Technician+ Medical Assistant Physical Therapy Aide Respiratory Therapy Aide 	<ul style="list-style-type: none"> Dental Hygienist+ Fitness/Aerobics Instructor+ Licensed Vocational Nurse/Registered Nurse+ Pharmacy Technician+ Registered Physical Therapy Aide+ 	<ul style="list-style-type: none"> Dentist+ Exercise Physiologist+ Pharmacist+ Physical Therapist+ Physician Assistant+

*Sample CTE Courses are from the Career Technical Education Framework for California Public Schools (California Department of Education: 2007, <http://www.cde.ca.gov/re/pn/fd/>).

**Visit ASSIST (www2.assist.org/browseAreas.do) for community college and UC/CSU information and California Career Zone (www.cacareerzone.org) for occupation information.

+This occupation requires certification or licensure.

Related Career Technical Student Organization: Health Occupations Students of America (HOSA) (<http://www.cal-hosa.org/>)

Additional Industry Sector information available through the California Health Careers Consortium (<http://www.health-careers.org/>).



Biotechnology Research and Development Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> Introduction to Health Careers I Introduction to Health Careers II 	<ul style="list-style-type: none"> Introduction to Biotechnology I Medical Terminology Structure and Function 	<ul style="list-style-type: none"> Biotechnology Assistant Biotechnology Technician Introduction to Biotechnology II 	<ul style="list-style-type: none"> Biotechnology Assistant 	<ul style="list-style-type: none"> Biomedical Technician+ Biotechnology Technician+ Quality Assurance/Control Technician+ 	<ul style="list-style-type: none"> Bioinformatics Specialist+ Biomedical Chemist+ Biostatistician+ Biotechnology Scientist+ Clinical Trials Researcher+

Diagnostic Services Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> Hospital Occupations Introduction to Health Careers I Introduction to Health Careers II Introduction to Imagery I 	<ul style="list-style-type: none"> Health: Biological Structure and Function Medical Terminology 	<ul style="list-style-type: none"> Bioengineering Assistant Medical Laboratory Assistant Radiology Assistant 	<ul style="list-style-type: none"> Medical Laboratory Aide Transporter 	<ul style="list-style-type: none"> Biotechnology Engineer Cardiology Technologist+ Medical Laboratory Assistant Medical Laboratory Technician+ Radiology Technologist+ 	<ul style="list-style-type: none"> Biotechnology Scientist+ Clinical Medical Technologist+ Geneticist+ Radiologist+

Health Informatics Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> Computer Technology Hospital Occupations Introduction to Health Careers I Introduction to Health Careers II 	<ul style="list-style-type: none"> Health: Biological Structure and Function Medical Terminology 	<ul style="list-style-type: none"> Insurance Billing Medical Coding Medical Transcription Skill-specific Health Informatics 	<ul style="list-style-type: none"> Health Unit Coordinator Medical Coder Medical Records Clerk Medical/Hospital Receptionist 	<ul style="list-style-type: none"> Medical Record Technician+ Medical Transcriptionist+ Telehealth Technician 	<ul style="list-style-type: none"> Health Educator Health Services Administrator Hospital/Nursing Home Administrator Medical Librarian

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