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.

### 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 Technician
- 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***

<table>
<thead>
<tr>
<th>Introductory</th>
<th>Concentration</th>
<th>Capstone</th>
</tr>
</thead>
</table>
| Introduction to Health Careers I  
Introduction to Health Careers II  
Introduction to Hospital Occupations | Medical Terminology  
Structure and Function | Hospital Support Services  
Maintenance and Supply Technician  
Medical Transporter |

**Education Level and Related Occupations**

<table>
<thead>
<tr>
<th>High School Diploma</th>
<th>Certification and/or AA Degree</th>
</tr>
</thead>
</table>
| Central Supply Aide  
Environmental Services Assistant  
Mortician+ | Central Supply Technician+  
Environmental Services Technician+  
Nursing Home Administrator+ |

*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/](http://www.cde.ca.gov/re/pn/fd/)).

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

+ This occupation requires certification or licensure.


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### Therapeutic Services Pathway

**Sample CTE Courses***

<table>
<thead>
<tr>
<th>Introductory</th>
<th>Concentration</th>
<th>Capstone</th>
</tr>
</thead>
</table>
| Introduction to Health Careers I  
Introduction to Health Careers II  
Introduction to Hospital Occupations | Hospital Occupations II  
Medical Terminology  
Structure and Function | Certified Nursing Assistant  
Dental Assistant  
Emergency Medical Technician  
Medical Assistant |

**Education Level and Related Occupations**

<table>
<thead>
<tr>
<th>High School Diploma</th>
<th>Certification and/or AA Degree</th>
<th>Bachelor’s Degree or Higher</th>
</tr>
</thead>
</table>
| Certified Nurses Assistant+  
Emergency Medical Technician+  
Medical Assistant  
Physical Therapy Aide  
Respiratory Therapy Aide | Dental Hygienist+  
Fitness/Aerobics Instructor+  
Licensed Vocational Nurse/Registered Nurse+  
Pharmacy Technician+  
Registered Physical Therapy Aide+ | Dentist+  
Exercise Physiologist+  
Pharmacist+  
Physical Therapist+  
Physician Assistant+ |
### Biotechnology Research and Development Pathway

**Sample CTE Courses***

<table>
<thead>
<tr>
<th>Introductory</th>
<th>Concentration</th>
<th>Capstone</th>
<th>Education Level and Related Occupations**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Health Careers I</td>
<td>Introduction to Biotechnology I</td>
<td>Biotechnology Assistant</td>
<td>High School Diploma Biotechnology Assistant</td>
</tr>
<tr>
<td>Introduction to Health Careers II</td>
<td>Medical Terminology</td>
<td>Biotechnology Technician</td>
<td>* Biomedical Technician+</td>
</tr>
<tr>
<td></td>
<td>Structure and Function</td>
<td>Introduction to Biotechnology II</td>
<td>* Biotechnology Technician+</td>
</tr>
</tbody>
</table>

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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/).

### Diagnostic Services Pathway

**Sample CTE Courses***

<table>
<thead>
<tr>
<th>Introductory</th>
<th>Concentration</th>
<th>Capstone</th>
<th>Education Level and Related Occupations**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Occupations</td>
<td>Health: Biological Structure and Function</td>
<td>Bioengineering Assistant</td>
<td>High School Diploma Medical Laboratory Aide</td>
</tr>
<tr>
<td>Introduction to Health Careers I</td>
<td>Medical Terminology</td>
<td>Medical Laboratory Assistant</td>
<td>* Biotechnology Engineer</td>
</tr>
<tr>
<td>Introduction to Health Careers II</td>
<td>Structure and Function</td>
<td>Radiology Assistant</td>
<td>* Cardiology Technologist+</td>
</tr>
<tr>
<td>Introduction to Imagery I</td>
<td></td>
<td>* Medical Laboratory Technician+</td>
<td>* Medical Laboratory Assistant+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Radiology Technician+</td>
<td>* Radiology Technician+</td>
</tr>
</tbody>
</table>

### Health Informatics Pathway

**Sample CTE Courses***

<table>
<thead>
<tr>
<th>Introductory</th>
<th>Concentration</th>
<th>Capstone</th>
<th>Education Level and Related Occupations**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Technology</td>
<td>Health: Biological Structure and Function</td>
<td>Insurance Billing</td>
<td>High School Diploma Health Unit Coordinator</td>
</tr>
<tr>
<td>Hospital Occupations</td>
<td>Medical Terminology</td>
<td>Medical Coding</td>
<td>* Medical Record Technician+</td>
</tr>
<tr>
<td>Introduction to Health Careers I</td>
<td>Structure and Function</td>
<td>Medical Transcription</td>
<td>* Medical Coder</td>
</tr>
<tr>
<td>Introduction to Health Careers II</td>
<td></td>
<td>Skill-specific Health Informatics</td>
<td>* Medical Records Clerk</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Medical Transcriptionist+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Medical/Hospital Receptionist</td>
</tr>
</tbody>
</table>

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