

# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Biotech Research and Development – Biotechnology

#### Get the Facts

Biotechnology is predicted to be one of the most important applied sciences of the 21st century.

#### Workforce Trends

While biotechnology is still in its infancy, it is a dynamic career field that is expanding by leaps and bounds. "Biotechnology has become the centerpiece of therapy of all ailments, from heart disease and cancers to the common cold," says Carl B. Feldbaum, former president of the Biotechnology Industry Organization (BIO).



#### CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit
51.1201	Biotechnology	1.00
<b>Elective Courses:</b>		
51.0001	Health Science, Introduction	.50
51.1399	Medical Anatomy & Physiology	1.00
51.1004	Medical Forensics	1.00
51.9999	Medical Math	.50
51.0799	Medical Terminology	.50
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

\* Course can be taken up to 1.00 credit.

1.00 credit

2.00 credits

3.00 credits for completion

#### Biotechnology is:

- > High skill
- > High demand

#### Sample Career Occupations

- > Biochemist
- > Biotechnology Technician
- > Health Science Education Teacher
- > Immunohematologist
- > Laboratory Asst.
- > Microbiologist
- > Toxicologist

Healthcare is one of the largest and fastest-growing industries in the U.S., employing over 18 million workers in more than 200 careers.

Middle School		State Requirements		High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts 4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://www.utahfutures.org">www.utahfutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science 3.00	Biology or Human Biology 1.00	Chemistry 1.00	Additional credit 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies 3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
P.E. 1.00	Health .50	1.50	P.E./Health 2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts 1.50	Fine Arts Courses 1.50				
Keyboarding .50			Digital Literacy .50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00		1.00	CTE 1.00	Refer to Career and Technical Education box above.				

> \* Talk to your school counselor about math requirements in the core curriculum. Core curriculum and elective requirements may vary district to district.  
> Many CTE courses may qualify for concurrent enrollment credit, which in some cases may earn up to 1.0 credit toward Pathway completion. Talk to your school counselor about availability.

> Concurrent enrollment course offerings vary by school and district.  
> Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Diagnostic Services – Clinical Laboratory and Medical Forensics

#### Get the Facts

The word "forensic" means "pertaining to the law." Forensic science resolves legal issues by applying scientific principles.

The work of forensic scientists is often instrumental in apprehending and convicting criminals

In Utah forensic science technicians must be licensed.

#### Workforce Trends

With popular TV crime shows like Bones, CSI, Criminal Minds, and NCIS the interest of pursuing a career in forensic science has increased.

Clinical laboratory technicians and technologist are valuable in the field of forensic science.



#### CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit
51.1004	Medical Forensics	1.00
<b>Elective Courses:</b>		
51.1201	Biotechnology	1.00
51.0001	Health Science, Introduction	.50
51.1399	Medical Anatomy & Physiology	1.00
51.9999	Medical Math	.50
51.0799	Medical Terminology	.50
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

\* Course can be taken up to 1.00 credit.

1.00 credit

2.00 credits

3.00 credits for completion

#### Clinical Laboratory and Medical Forensics is:

- > High skill
- > High wage
- > High demand

#### Sample Career Occupations

- > Clinical Laboratory Technician
- > Clinical Laboratory Technologist
- > Clinical Laboratory Scientist
- > Forensic Biologist
- > Forensic Chemist
- > Forensic Odontologist
- > Forensic Pathologist
- > Forensic Science Technicians
- > Health Science Education Teacher
- > Toxicologist

Middle School		State Requirements		High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts 4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://UtahFutures.org">UtahFutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science 3.00	Biology or Human Biology 1.00	Chemistry 1.00	Medical Forensics 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies 3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
			General Financial Literacy .50			General Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health 2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts 1.50	Fine Arts Courses 1.50				
Keyboarding .50			Digital Literacy .50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00		1.00	CTE 1.00	Refer to Career and Technical Education box above.				

> \* Talk to your school counselor about math requirements in the core curriculum. Core curriculum and elective requirements may vary district to district.  
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> Concurrent enrollment course offerings vary by school and district.  
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# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Health Informatics – Medical Office Administrative Assistant

#### Get the Facts

As insurance policies become more intricate, and as government sets more guidelines and creates new laws surrounding the profession, there is an increased need for administrative help within hospitals, clinics, and other medical offices.

About half of all medical office administrative assistants work in doctors' and dentists' offices.

#### Workforce Trends

Rapid growth in the health services industry should fuel the demand for medical office administrative assistants. In Utah, this occupation is expected to experience faster than average employment growth with a high volume of annual job openings.



#### CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit
51.0703	Medical Office Administrative Assistant	1.00
<b>Elective Courses:</b>		
51.0001	Health Science, Introduction	.50
51.1399	Medical Anatomy and Physiology	1.00
51.9999	Medical Math	.50
51.0707	Medical Records Technician	.50
51.0799	Medical Terminology	.50
51.0708	Medical Transcription	1.00
51.0711	Health Information Management	1.00
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

\* Course can be taken up to 1.00 credit.

3.00 credits for completion

#### Medical Office Administrative Assistant is:

- > High skill
- > High demand

#### Sample Career Occupations

- > Health Science Education Teacher
- > Medical Coder
- > Medical Secretary
- > Medical Records Technician

Healthcare is one of the largest and fastest-growing industries in the U.S., employing over 18 million workers in more than 200 careers.

Middle School		State Requirements		High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts 4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://UtahFutures.org">UtahFutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science 3.00	Earth Systems 1.00	Biological Science 1.00	Medical Anatomy and Physiology 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies 3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
P.E. 1.00	Health .50	1.50	General Financial Literacy .50			General Financial Literacy .50		
			P.E./Health 2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts 1.50	Fine Arts Courses 1.50				
Keyboarding .50			Digital Literacy .50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00		1.00	CTE 1.00	Refer to Career and Technical Education box above.				

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# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Therapeutic Services – Dental

#### Get the Facts

Research shows that chronic gum disease leads to the release of inflammatory substances and bacteria into the blood stream, which leads to heart disease.

#### Workforce Trends

The dental industry is in critical need of dental assistants. Dentists are hiring more assistants to perform routine tasks so that they may devote more time to complex procedures. In Utah, employment for dental assistants is projected to increase 3.1 percent through the year 2022.

According to the Utah Department of Workforce Service, a dental hygienist can expect to make about \$28 an hour.



#### CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

#### CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit
51.0601	Dental Assistant	2.00
<b>Elective Courses:</b>		
20.0108	Food and Nutrition 1	.50
20.0118	Food and Nutrition 2	.50
20.0138	Foundations of Nutrition *	.50
51.0001	Health Science, Introduction	.50
51.1399	Medical Anatomy and Physiology	1.00
51.9999	Medical Math	.50
51.0799	Medical Terminology	.50
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

\* Course can be taken up to 1.00 credit.

2.00 credits

1.00 credit

3.00 credits for completion

#### Dental is:

> High demand

#### Sample Career Occupations

- > Dental Assistant
- > Dental Ceramist
- > Dental Hygienist
- > Dental Laboratory Technician
- > Dentist
- > Health Science Education Teacher
- > Orthodontic Technician

Nationwide, approximately 10 percent of the people employed as dental assistants are men.

In Utah, a dental hygienist and a dentist must be licensed.

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7th Grade	8th Grade	Middle School	High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts 4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://UtahFutures.org">UtahFutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science 3.00	Biology or Human Biology 1.00	Chemistry 1.00	Medical Anatomy and Physiology 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies 3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
P.E. 1.00	Health .50	1.50	General Financial Literacy .50	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	P.E./Health 2.00	General Financial Literacy .50				
Keyboarding .50			Fine Arts 1.50	Fine Arts Courses 1.50				
College & Career Awareness 1.00		1.00	Digital Literacy .50	Comp. Tech. or Exploring Computer Science .50				
			CTE 1.00	Refer to Career and Technical Education box above.				

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# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Therapeutic Services – Emergency Medical Technician (EMT)

#### Get the Facts

Emergency medical technicians and paramedics must have formal training and certification. In order to maintain certification, EMTs and paramedics are required to re-certify, typically every 2 years.

#### Workforce Trends

A growing and urbanized population will demand more emergency services, increasing the demand for professional emergency medical technicians (EMT) and paramedics.

According to the Utah Department of Workforce Services, women represent nearly 80 percent of the healthcare workforce.



#### CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit
51.0904	Emergency Medical Technician	2.00
<b>Elective Courses:</b>		
51.0810	Emergency Medical Responder	.50
51.0001	Health Science, Introduction	.50
51.1399	Medical Anatomy and Physiology	1.00
51.9999	Medical Math	.50
51.0799	Medical Terminology	.50
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

\* Course can be taken up to 1.00 credit.

Visit [UtahCTE.org](http://UtahCTE.org) to learn how to earn industry certification in this Pathway.

2.00 credits

1.00 credit

3.00 credits for completion

#### Emergency Medical Technician (EMT) is:

- > High skill
- > High demand

#### Sample Career Occupations

- > Emergency Medical Technician (EMT)
- > Health Science Education Teacher
- > Paramedic

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Middle School		State Requirements			High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School		9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://UtahFutures.org">UtahFutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biological Science 1.00	Medical Anatomy and Physiology 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
			General Financial Literacy	.50			General Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50				
Keyboarding .50			Digital Literacy	.50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.				

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# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Therapeutic Services – Medical Assistant

#### Get the Facts

Medical assistants complete administrative and clinical tasks in the offices of physicians, podiatrists, chiropractors, and other health practitioners.

Approximately 62 percent of all medical assistants work in a physician's office.

According to the U.S. Department of Labor, medical assistants held about 560,800 jobs in 2012.

#### Workforce Trends

A growing and aging population and technological advances in medicine make this one of the fastest growing occupations nationwide, having a projected job growth of 29 percent through the year 2022.



#### CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

#### CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit
51.0801	Medical Assistant	2.00
<b>Elective Courses:</b>		
51.0810	Emergency Medical Responder	.50
51.0001	Health Science, Introduction	.50
51.1399	Medical Anatomy and Physiology	1.00
51.9999	Medical Math	.50
51.0799	Medical Terminology	.50
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

\* Course can be taken up to 1.00 credit.

3.00 credits for completion

**Medical Assistant is:**  
> High demand

#### Sample Career Occupations

- > Certified Nurse Assistant (CNA)
- > Health Science Education Teacher
- > Licensed Practical Nurse (LPN)
- > Medical Assistant
- > Registered Nurse (RN)

In Utah, a medical assistant, a licensed practical nurse (LPN), and a registered nurse (RN) must be licensed.

Middle School		State Requirements		High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts 4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://UtahFutures.org">UtahFutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science 3.00	Earth Systems 1.00	Biological Science 1.00	Medical Anatomy and Physiology 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies 3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
			General Financial Literacy .50			General Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health 2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts 1.50	Fine Arts Courses 1.50				
Keyboarding .50			Digital Literacy .50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00		1.00	CTE 1.00	Refer to Career and Technical Education box above.				

> \* Talk to your school counselor about math requirements in the core curriculum. Core curriculum and elective requirements may vary district to district.  
> Many CTE courses may qualify for concurrent enrollment credit, which in some cases may earn up to 1.0 credit toward Pathway completion. Talk to your school counselor about availability.

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# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Therapeutic Services – Nursing

#### Get the Facts

In the U.S., registered nurses (RNs) hold 2.7 million jobs, making registered nursing the largest health care occupation. About 6 out of 10 RN jobs are in hospitals, in inpatient and outpatient departments.

Nationwide, 9.6 percent of people employed as a registered nurse are men.

#### Workforce Trends

Healthcare is the largest and fastest-growing industry in the United States, employing over 10 million workers in more than 200 careers.

According to the Utah Department of Workforce Services, healthcare occupations are expected to make up seven of the 20 fastest growing occupations by the year 2030.



#### CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

#### CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit
51.0799	Medical Terminology	.50
51.1614	Nurse Assistant *	.50
	<b>Elective Courses:</b>	
51.0810	Emergency Medical Responder	.50
20.0108	Food and Nutrition 1	.50
20.0118	Food and Nutrition 2	.50
20.0138	Foundations of Nutrition	.50
51.0001	Health Science, Introduction	.50
20.0112	Human Development	1.00
51.1399	Medical Anatomy and Physiology	1.00
51.9999	Medical Math	.50
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

1.00 credit

2.00 credits

3.00 credits for completion

\* Course can be taken up to 1.00 credit.

Visit [UtahCTE.org](http://UtahCTE.org) to learn how to earn industry certification in this Pathway.

#### Nursing is:

- > High skill
- > High demand

#### Sample Career Occupations

- > Advanced Practice Nurse (APN)
- > Certified Nurse Assistant (CNA)
- > Certified Nurse Midwife (CNM)
- > Certified Registered Nurse Anesthetist (CRNA)
- > Health Science Education Teacher
- > Licensed Practical Nurse (LPN)
- > Medical Assistant
- > Registered Nurse (RN)

In Utah, a nurse anesthetist (CRNA), a licensed practical nurse (LPN), and a registered nurse (RN) must be licensed.

Middle School		State Requirements			High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School		9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://UtahFutures.org">UtahFutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biology or Human Biology 1.00	Chemistry 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
			General Financial Literacy	.50			General Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50				
Keyboarding .50			Digital Literacy	.50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.				

> \* Talk to your school counselor about math requirements in the core curriculum. Core curriculum and elective requirements may vary district to district.  
> Many CTE courses may qualify for concurrent enrollment credit, which in some cases may earn up to 1.0 credit toward Pathway completion. Talk to your school counselor about availability.

> Concurrent enrollment course offerings vary by school and district.  
> Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Therapeutic Services – Pharmacy

#### Get the Facts

Pharmaceutical makers are accustomed to a research-to-market cycle of as long as 10 years in order to discover, develop, and commercially launch a new drug.

#### Workforce Trends

**Pharmacy Technician:**  
With increased medical needs of an aging population and additional tasks given to pharmacy techs., many job opportunities will be created, especially for those with formal training and certification.

#### Pharmacist:

New opportunities are emerging for pharmacists in managed care organizations, where they analyze trends and patterns in medication use, and in pharmacoeconomics—the cost and benefit analysis of different drug therapies.



CAREER AND TECHNICAL EDUCATION		
Recommended Pathway Courses		
(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)		
CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL		
Course #	Foundation Courses: (required)	Credit
51.0805	Pharmacy Technician	2.00
<b>Elective Courses:</b>		
51.0001	Health Science, Introduction	.50
51.1399	Medical Anatomy and Physiology	1.00
51.9999	Medical Math	.50
51.0799	Medical Terminology	.50
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

\* Course can be taken up to 1.00 credit.

Visit [UtahCTE.org](http://UtahCTE.org) to learn how to earn industry certification in this Pathway.

3.00 credits for completion

#### Pharmacy is:

- > High skill
- > High demand

#### Sample Career Occupations

- > Health Science Education Teacher
- > Pharmacy Aide
- > Pharmacy Technician
- > Pharmacist

In Utah, a pharmacist and pharmacy technician must be licensed.

Middle School		State Requirements		High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts 4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://UtahFutures.org">UtahFutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science 3.00	Biology or Human Biology 1.00	Chemistry 1.00	Physics 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies 3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
			General Financial Literacy .50			General Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health 2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts 1.50	Fine Arts Courses 1.50				
Keyboarding .50			Digital Literacy .50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00		1.00	CTE 1.00	Refer to Career and Technical Education box above.				

> \* Talk to your school counselor about math requirements in the core curriculum. Core curriculum and elective requirements may vary district to district.  
> Many CTE courses may qualify for concurrent enrollment credit, which in some cases may earn up to 1.0 credit toward Pathway completion. Talk to your school counselor about availability.

> Concurrent enrollment course offerings vary by school and district.  
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# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Therapeutic Services – Surgical Technician

#### Get the Facts

Surgical technicians are commonly referred to as "scrubs." More than three-fourths of scrubs work in a hospital setting, with the exception of private scrubs who are employed directly by surgeons for special teams – like transplant work.

#### Workforce Trends

Demand for surgical technicians will rise as the population ages and as new technologies allow for more and varied surgeries. Hospitals will remain the primary employer, but physician offices and clinics, including ambulatory surgical centers, will provide most new jobs.



#### CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit
51.0909	Surgical Technician	2.00
<b>Elective Courses:</b>		
51.0810	Emergency Medical Responder	.50
51.0001	Health Science, Introduction	.50
51.1399	Medical Anatomy and Physiology	1.00
51.9999	Medical Math	.50
51.0799	Medical Terminology	.50
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

\* Course can be taken up to 1.00 credit.

Visit [UtahCTE.org](http://UtahCTE.org) to learn how to earn industry certification in this Pathway.

3.00 credits for completion

**Surgical Technician is:**  
> High skill  
> High demand

#### Sample Career Occupations

> Health Science Education Teacher  
> Surgical Technician

According to the Utah Department of Workforce Services, healthcare occupations are expected to make up seven of the 20 fastest growing occupations by the year 2030.

Middle School		State Requirements			High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School		9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>&gt; Certificate</li> <li>&gt; Associate degree</li> <li>&gt; Bachelor's degree</li> <li>&gt; Professional degree</li> <li>&gt; On-the-job training</li> <li>&gt; Apprenticeship</li> <li>&gt; Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://UtahFutures.org">UtahFutures.org</a>.</p>
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science	3.00	Biology or Human Biology 1.00	Chemistry 1.00	Medical Anatomy and Physiology 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
			General Financial Literacy	.50			General Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50				
Keyboarding .50			Digital Literacy	.50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.				

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# High School to College and Career Pathway: Secondary Career and Technical Education

## Area of Study: Health Science Education

### Pathway: Therapeutic Services – Therapeutic Rehabilitation/Exercise

#### Get the Facts

Physical Therapy is ranked among the top 10 fields, and is expected to remain a top field well into the 21st century.

In Utah, a physical therapist and a physical therapist assistant must be licensed.

#### Workforce Trends

Job growth will be concentrated in healthcare industry settings, such as ambulatory healthcare services and hospitals.

According to the Utah Department of Workforce Services, healthcare occupations are expected to make up seven of the 20 fastest growing occupations by the year 2030.



#### CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

**CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL**

Course #	Foundation Courses: (required)	Credit
51.0913	Exercise Science/Sports Medicine	1.00
51.1399	Medical Anatomy and Physiology	1.00
<b>Elective Courses:</b>		
51.0810	Emergency Medical Responder	.50
51.0001	Health Science, Introduction	.50
51.9999	Medical Math	.50
51.0799	Medical Terminology	.50
51.1199	Health Science, Advanced (capstone course) *	.50
32.0199	Workplace Skills	.50

\* Course can be taken up to 1.00 credit.

**3.00 credits for completion**

#### Therapeutic Rehabilitation/Exercise is:

- > High skill
- > High wage
- > High demand

#### Sample Career Occupations

- > Athletic Trainer
- > Chiropractor
- > Health Science Education Teacher
- > Occupational Therapist
- > Occupational Therapist Aide
- > Occupational Therapist Assistant
- > Physical Therapist
- > Physical Therapist Aide
- > Physical Therapist Assistant
- > Massage Therapist
- > Physician
- > Physician Assistant

Middle School		State Requirements		High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School	High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
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Math * 1.00	Math * 1.00	2.00	Math 3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	
Science .50	Science 1.00	1.50	Science 3.00	Biology or Human Biology 1.00	Chemistry 1.00	Medical Anatomy and Physiology 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies 3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
			General Financial Literacy .50			General Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health 2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			
The Arts .50	The Arts .50	1.00	Fine Arts 1.50	Fine Arts Courses 1.50				
Keyboarding .50			Digital Literacy .50	Comp. Tech. or Exploring Computer Science .50				
College & Career Awareness 1.00		1.00	CTE 1.00	Refer to Career and Technical Education box above.				

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