CTE Approval Self-Study Report

PTECH Clinical Lab Tech

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Self-study

> *Self-study is the first step in the career and technical education approval process. The self-study review is required for all existing programs and new programs seeking approval. Its purpose is to bring together partners to review the CTE program, propose relevant modifications, and evaluate the degree to which the program meets the policy requirements approved by the Board of Regents on February 6, 2001.*

Self-study review will include:

Curriculum review

Benchmarks for student performance and student assessment

Teacher certification and highly-qualified status of instructional staff

Work-based learning opportunities

Teacher and student schedules

Resources, including staff, facilities, and equipment

Accessibility for all students

Work skills employability profile

Professional development plans

Projected number of students to be served

Source: http://www.p12.nysed.gov/cte/ctepolicy/guide.html

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Medical and Clinical Laboratory Technologists and Technicians

Quick Facts:	
2015 Median Pay	$50,930 per year $24.48 per hour
Typical Entry-Level Education	
Work Experience in a Related Occupation	None
On-the-job Training	None
Number of Jobs, 2014	328,200
Job Outlook, 2014-24	16% (Much faster than average)
Employment Change, 2014-24	52,100

What Medical and Clinical Laboratory Technologists and Technicians Do

Medical laboratory technologists (commonly known as *medical laboratory scientists*) and medical laboratory technicians collect samples and perform tests to analyze body fluids, tissue, and other substances.

Work Environment

About half of all medical laboratory technologists and technicians were employed in hospitals in 2014. Others worked in doctors' offices or diagnostic laboratories.

How to Become a Medical and Clinical Laboratory Technologist and Technician

Medical laboratory technologists typically need a bachelor's degree. Technicians usually need an associate's degree or a postsecondary certificate. Some states require technologists and technicians to be licensed.

Pay

The median annual wage for medical and clinical laboratory technologists was $61,070 in May 2016.

The median annual wage for medical and clinical laboratory technicians was $38,950 in May 2016.

Job Outlook

Employment of medical laboratory technologists and technicians is projected to grow 16 percent from 2014 to 2024, much faster than the average for all occupations. An increase in the aging population is expected to lead to a greater need to diagnose medical conditions, such as cancer or type 2 diabetes, through laboratory procedures.

Related Occupations

Occupational Title	SOC Code	Employment, 2014	Projected Employment, 2024	Change, 2014-24	
				Percent	Numeric
Biological technicians	19-4021	79,300	83,500	5	4,100
Chemical technicians	19-4031	66,500	67,700	2	1,200
Veterinary technologists and technicians	29-2056	95,600	113,600	19	17,900

Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2016-17 Edition*, Medical and Clinical Laboratory Technologists and Technicians, on the Internet at https://www.bls.gov/ooh/healthcare/medical-and-clinical-laboratory-technologists-and-technicians.htm (visited *September 14, 2017*).

New York Employment Demand Profile: **Clinical Lab Tech**

Source: Labor Insight Jobs (Burning Glass Technologies), Summary Demand and Requirements Table by Occupation, New York state data, Sep. 01, 2016 - Aug. 31, 2017.

Category:		Demand and Employment				Salary		Education level based on posting requirements (*excluding NA)						Education level of employed individuals		
Source:		Burning Glass	BLS/OES, 2016	BGT Projections		Burning Glass	BLS/OES, 2016	Burning Glass						ACS, 2014		
SOC Code (ONET-6)	Occupation Title	Number of Job Postings	Number Employed 2016	% Change in Employment, 2015-2016	Projected Statewide Change in Employment, 2016-2026	Mean Advertised Salary	Mean Salary	% Requiring high school*	% Requiring Post-Secondary or Associate's Degree*	% Requiring Bachelor's Degree*	% Requiring Master's Degree*	% Requiring Doctoral Degree*	% with Unspecified Education	% with a high school diploma or less	% with Some College or an Associate's	% with a Bachelor's or higher
29-2012	**Medical and Clinical Laboratory Technicians**	3,205	7,740	4%	16.4%	$53,642	$48,470	48%	28%	48%	5%	1%	31%	12%	37%	51%
29-2011	**Medical and Clinical Laboratory Technologists**	2,272	10,380	7%	9.5%	$63,970	$67,890	16%	10%	89%	8%	2%	26%	12%	37%	51%
19-4021	**Biological Technicians**	307	3,440	29%	16.7%	$40,694	$44,430	16%	13%	84%	17%	18%	11%	20%	34%	46%
19-4031	**Chemical Technicians**	215	2,710	-8%	14.4%	$46,549	$50,620	23%	18%	72%	23%	7%	18%	27%	37%	36%
29-2056	**Veterinary Technologists and Technicians**	507	4,280	-5%	22.6%	$56,297	$43,760	19%	67%	31%	2%	2%	66%	24%	57%	19%

*This report provides information on both the preferred and minimum/required education levels for job postings. For this reason, a job posting may be counted in more than one of the educational categories shown in the table below. Please also note that Bureau of Labor Statistics (BLS) data is only available at the 6-digit SOC code level.

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A. Curriculum Review

> *The curriculum review is a step in the self-study process. It is an opportunity for members of the self-study team to evaluate the proposed curriculum for completeness in terms of the knowledge, skills, and competencies required in the program field. The team reviews the curriculum to ensure that course content in the career and technical education program meets State Education Department regulations, contributes to achievement of state and industry standards, and prepares students for successful completion of a technical assessment. Approved curriculum content is nonduplicative, challenging, organized along a continuum of difficulty, and free of bias.*
>
> *CTE program approval does not constitute Department approval or endorsement of proprietary curriculum or related curriculum products. Program approval indicates only that a school district or BOCES has provided the Department with assurances that the curriculum review has been completed.*

Process

- The school district or BOCES identifies the faculty members and other individuals who will be involved in conducting the curriculum review
- The school district or BOCES determines the procedures used in completing the curriculum review
- Reviewers confirm that CTE program content aligns with state CDOS standards, relevant state academic standards, and related business and industry standards
- Reviewers confirm that CTE program content includes integrated or specialized units of credit
- Reviewers confirm that the CTE program meets unit of credit and other distributive requirements

Documentation

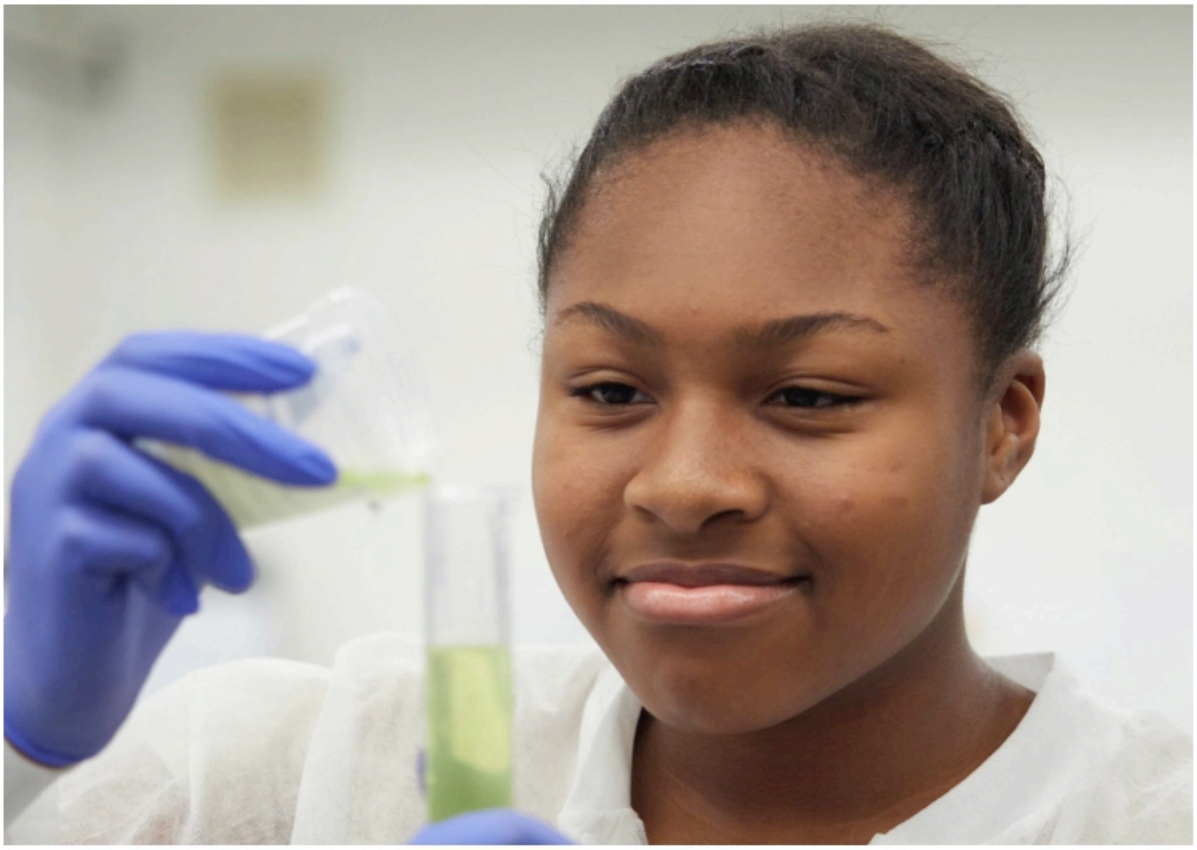
Documentation of the curriculum review is maintained by the school district or BOCES and is updated whenever modifications are made to the approved CTE program. Recommendations from curricular review should be included in the self-study report and reviewed by the external committee.

Resources

New York State graduation requirements

http://www.emsc.nysed.gov/part100/pages/1005.html

Source: http://www.p12.nysed.gov/cte/ctepolicy/guide.html



Clinical Laboratory Technology

Working in an industrial design medical laboratory environment, students enrolled in the P-Tech Clinical Laboratory Technology program at Henninger High School will acquire the knowledge and technical skills that will prepare them for positions as entry-level laboratory assistants or advanced placement in post-secondary education.

As a career link, established partnerships with many local businesses and medical facilities provide students with internships and potential future employment opportunities. In addition, students have the opportunity to earn a Career and Technical Endorsement on their diploma by successfully passing an industry-standard technical assessment.

This is a six year program culminating with a NYS Regents Diploma or a Regents Diploma with Advanced Distinction as well as a Clinical Laboratory Technician A.A.S. from Broome County Community College.

Students will gain practical learning experience through:
- Scientific investigations and experiments
- Collection and testing of samples
- Writing reports and presenting information in a state-of-the-art, high-tech laboratory setting

CAREER OPPORTUNITIES:
Medical Laboratory Technician, Biological Technician, Quality Control Microbiologist, Research Laboratory Technician, Pharmaceutical Laboratory Technician

Course of Study Clinical Laboratory Technology

9th Grade

- Clinical Laboratory Technology CLT100 (1 Credit CTE)

10th Grade

- Clinical Laboratory Technology 200 CLT200 (1 Credit CTE)

11th Grade

- Clinical Laboratory Technology 300 CLT300 (1 Credit CTE)
- CLT CTE Specialized Math CTE201 (1 Credit)

12th Grade

- Clinical Laboratory Technology 400 CLT400 (1 Credit CTE)
- CLT CTE Integrated Science CTE300 (1 Credit)
- CLT CTE Integrated ELA CTE400 (1 Credit)

DISTRICT REQUIREMENTS

- Students must pass PTECH Clinical Laboratory Technology 100, 200, 300 and 400 to challenge the course approved technical assessment.
- All students in 9th grade will receive Career and Financial Management.
- Student will have earned the 12th grade integrated ELA credit upon successful completion of the PTECH CLT 100, 200, 300 and 400 sequences.
- Student will receive the CTE Endorsement upon successful completion of the CTE PTECH CLT 400, passing the prescribed technical assessment and completion of a commencement level project.
- Student will have earned the 12th grade integrated science upon successful completion of the PTECH CLT 400.
- Student will have earned the 12th grade specialized math upon successful completion of the PTECH CLT 300.

Syracuse City School District
Career and Technical Education Program
Course Syllabus
CLT 100: Clinical Lab Technology 100

Program Overview

Students enrolled in the Clinical Lab Technology program will acquire the knowledge and technical skills that will prepare them either for positions as entry level laboratory assistants or for advanced placement in post-secondary education. Students will gain practical learning experience through scientific investigations and experiments, as well as the collection and testing of samples, writing reports, and presenting information in a state-of-the-art, high-tech laboratory setting. As a career link, established partnerships with many local businesses and medical facilities provide students with internships and potential future employment opportunities. In addition, students have the opportunity to earn a Career and Technical Endorsement on their diploma by successfully passing an industry-standard technical assessment.

Course Description

This course gives students an introduction to the profession of clinical lab technology, its scope of practice, and career opportunities available for the clinical lab technician. In addition, students will develop an orientation to the healthcare environment, effective communication skills, and a foundation in medical ethics, biomedical and legal issues, including HIPAA, OSHA, and CDC regulations. Students will have the opportunity for hands on work with laboratory equipment and diagnostic testing. Classroom and laboratory safety, professionalism, and career readiness skills are emphasized.

Pre-Requisites

N/A

Course Objectives

By the end of the Clinical Lab Technology 100 course students will:

1. Be acquainted with a wide range of occupational and educational opportunities for college and career readiness.
2. Participate in hands-on activities and create products to demonstrate the knowledge and skills of a clinical lab technician.
3. Practice and identify professional communication needed to serve patients and the public
4. Identify and practice procedures for maintaining laboratory safety related to infection control, electrical, chemical, biological, and fire safety.
5. Understand regulatory issues in the clinical laboratory pertaining to licensure, OSHA, CLIA, and HIPAA.
6. Apply ethical standards to the healthcare setting, including patient confidentiality.
7. Understand the career application of clinical lab technology information through participation in field experiences.
8. Demonstrate skills in processing self-knowledge in relation to the clinical lab technology course and program, the world of work, and future planning.

Integrated Academics

N/A

Equipment and Supplies

- **School will provide:** All textbooks and laboratory supplies
- **Student will provide:** Closed toed shoes for laboratory setting, externship professional attire, and a three-ring binder

Textbook

Estridge, Barbara H., and Anna P. Reynolds. 2008. *Basic Clinical Laboratory Techniques, 5th Edition.* Clifton Park, NY: Delmar Cengage Learning.

Grading

Grades will be calculated as follows:

30% Projects/Labs/Presentations/Papers
30% Classwork/Homework/Energizers
20% Tests/Quizzes
20% Class Participation (attendance, cooperation, classroom discussion, preparation)

Additional Course Policies

- Attendance is critical for program success. A large percentage of students' grades are based on attendance. Students who attend all class meetings are more likely to accomplish the course successfully.
- A daily grade is awarded on attendance, attitude, professionalism, and participation.
- If students are absent from class they will lose participation points for that day.
- If it is an unexcused absence, students will not be able to receive any participation points for that day.
- If students are absent, any missed work will be placed in the student's mailbox to be completed. It is the student's responsibility to check for missing assignments.
- Cells phones are not allowed in the laboratory or classroom. They need to be turned off.
- Use of cell phone will result in lost participation points and possible confiscation of the student's phone. Calls and texts can be made before or after class, or during break.
- Professional behavior is expected at all times.

Course Calendar

Quarter	Units of Study
1	• Classroom Practices: Being Successful in CLT 100 • Introduction to Clinical Laboratory Careers • Roles and Responsibilities of a Clinical Laboratory Technician • Departments in the Clinical Laboratory and Basic Diagnostic Tests
2	• Personal and Professional Qualities of a Laboratory Technician • Professional Communication • Ethical and Legal Considerations for the Clinical Laboratory Technician
3	• Medical Terminology for the Laboratory Professional • Introduction to the Medical Math • Infection Control Practices in the Laboratory
4	• Laboratory Safety: Physical, Chemical, and Biological Hazards • Circulatory System • The Microscope • Review and Final Examination

Syracuse City School District
Career and Technical Education Program
Scope and Sequence
CLT 100: Clinical Lab Technology 100

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
Week 1 **Classroom Practices: Being Successful in CLT 100**	• What are the expectations for the clinical lab technology classroom? • What is Blackboard? • How can I develop study skills in order to be successful in Laboratory Technology? • How can I manage my time this year? • How can I improve note-taking? • How can I study effectively to prepare for a test?	• Explain and follow classroom procedures. • List rules for general classroom and lab safety. • Use Blackboard as an online learning tool. • Identify the importance of motivation for achieving career goals. • Evaluate ways to manage time. • Identify and describe their specific learning styles. • Assess individual strengths and weakness. • Utilize skills that will help get the most benefit from lectures, labs, and readings. • Demonstrate effective note-taking. • Investigate various study skills for test taking and identify two effective skills.	• Quiz on Classroom Procedures and General Safety • Goal Setting Reflection Worksheet • Self-Evaluation Checklists • Critical Thinking Exercise-Round Robin • Chapter Review Questions • Improving Study Habit Questionnaire • "What Did I Learn" Worksheets • Online Assessment	**Career Ready Practices** CRP 1,2,4,6,7,8,10,11 **Cluster Standards** HL 1,4,5 ST 6 **Pathway Standards** HL-DIA 4 ST-SM 3	**ELA** 9-10R 2,4 9-10W 2,4 9-10SL 1 9-10L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,7 **Science**
Weeks 2-3 **Introduction to Clinical Laboratory Careers**	• What is laboratory technology? • What are the career pathways in the laboratory? • In what types of laboratories do laboratory technicians find employment? • What are the different roles in the organizational structure of the clinical laboratory? • How much education is needed to pursue various careers in the laboratory? • What types of license or certifications are required to gain employment in the laboratory? • What is the place for me in the laboratory?	• Define laboratory technology and the function of the laboratory. • List potential employers for clinical laboratory assistants in non-hospital laboratories. • Differentiate various job titles in the clinical laboratory using an organizational chart. • List the major departments in the clinical lab and name a common test. • Define various job titles in the clinical laboratory. • Match personality characteristics to possible career choices. • Explain how clinical labs are regulated. • Explain the purpose of proficiency testing. • Explain how labs are credentialed. • Identify skills necessary for specific careers.	• About Me Template • Self Portrait Project-Rubric • Written Assessment on Definitions, Job Titles, and Departments in the Laboratory • Education and Salary Graph • Research Paper on Employment Outlook, Salaries, and Work Environment • Presentation on Various Career Pathways in the Laboratory • Laboratory Career Brochure • Career Matching Matrix • Online Assessment	**Career Ready Practices** CRP 2,6,7,10,11 **Cluster Standards** HL 1,2,4 ST 4 **Pathway Standards** ST-SM 4	**ELA** 9-10R 1,4,8 9-10W 2,4,5,6,7 9-10SL 1,4,5,6 9-10L 1,2,3,6 **Literacy** RST 1,2,4 WHST 2,4,5,6,7 **Science**
Weeks 4-5 **Roles and**	• What are the tasks and roles of various laboratory	• Describe the roles of clinical laboratory staff including education, professional	• Quiz on Roles and Responsibilities of	**Career Ready Practices** CRP 2,6,7,8,11	**ELA** 9-10R 1,2,4,8 9-10W 2,4

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
Responsibilities of a Clinical Laboratory Technician	personnel? • What are other allied health professionals in the laboratory? • How does scientific reasoning apply in daily life?	credentials, and contributions to the clinical laboratory. • Describe several tasks performed by a laboratory technician. • Describe the scientific method. • Explain how the scientific method is used to answer questions and solve problems in the laboratory. • Show how the scientific method is used to solve an investigation, including all the steps of the method and an experiment.	Laboratory Personnel • Guest Speaker Interview Questions • Scientific Methods Lab • Online Assessment		9-10SL 1,3 9-10L 1,2,3,6
				Cluster Standards HL 2,4 ST 4	**Literacy** RST 1,2,4,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 5 ST-SM 4	**Science**
Weeks 6-11 **Departments in the Clinical Laboratory and Basic Diagnostic Tests**	• What are the various departments in the clinical laboratory? • What are the commonly performed tests in the various departments in the clinical laboratory? • What are the specimen requirements for various tests in the laboratory? • What do laboratory tests tell us? • How do physicians choose what diagnostic test to order?	• List the various departments in a clinical laboratory. • List the sub-departments in microbiology. • Compose a list of several tests performed in the different departments in the clinical laboratory. • Name the tests included in a Complete Blood Count (CBC). • List three parts of a urinalysis. • Name two methods for blood collection. • Research a common test performed in the laboratory. • List and describe common diagnostic tests. • Draw conclusions on which diagnostic tests should be ordered to determine a disease state. • Determine conditions that may produce abnormal test results.	• Presentation on a Common Tests Performed in the Laboratory • Quiz on Departments and Common Tests Performed in the Laboratory • Lab Kit Summary • Unit Exam on Laboratory Careers, Roles, Responsibilities, Departments, and Common Tests • Patient Case Studies • Concept Maps • Online Assessment	**Career Ready Practices** CRP 2,6,7,8,11	**ELA** 9-10R 1,2,4,8 9-10W 2,4,5,6,7 9-10L 1,2,3,6
				Cluster Standards HL 2,4 ST 4	**Literacy** RST 1,2,4,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 5 ST-SM 4	**Science** HS-ETS1-2, HS-ETS1-3
Weeks 12-13 **Personal and Professional Qualities of a Laboratory Technician**	• What are the personal qualities that are desirable in the laboratory? • What are the benefits of effective teamwork? • Why is being a team-player important in health care? • How can conflicts be resolved?	• List personal qualities that are desirable in a clinical laboratory professional. • Discuss the lab professional/patient relationship. • Demonstrate the standards of professional appearance as they apply to lab coats, shoes, hair, and jewelry. • Create a profile of a healthcare worker that includes personal and professional traits. • List the steps of conflict resolution. • Demonstrate how to resolve conflict.	• Diagram of a Professional Laboratory Technician • Teamwork Problem Solving Activity • Online Assessment	**Career Ready Practices** CRP 1,6,7,9,12	**ELA** 9-10R 1,2,4,8 9-10W 2,4 9-10SL 1 9-10L 1,2,3,6
				Cluster Standards HL 1,4 ST 4	**Literacy** RST 1,2,4 WHST 2,5,6,7
				Pathway Standards HL-DIA 1 ST-SM 4	**Science**
Weeks 14-16 **Professional Communication**	• What are the basic concepts of communication? • How do I communicate	• Identify different types of communication. • Practice verbal and nonverbal communication.	• Clear Verbal Communication Exercise • Peanut Butter and Jelly	**Career Ready Practices** CRP 1,4,9,12	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10SL 1,3,4

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	professionally to serve the needs of my patients? • What are factors that interfere with communication? • Why is active listening important in healthcare? • How do I communicate with patients of different ages? • What is the importance of complete and accurate telephone messages?	• Engage in active listening. • Identify cultural differences and how to address them in healthcare. • Demonstrate ways population-specific care is applied while communicating with patients. • Practice taking a complete telephone message.	Communication Exercise • Telephone Message Activity • Communication Chapter Activity • Communication Quiz • Online Assessment		9-10L 1,2,3,6
				Cluster Standards HL 1,4,6 ST 4	**Literacy** RST 1,2,4 WHST 2,4
				Pathway Standards HL-DIA 1 ST-SM 4	**Science**
Weeks 17-19 **Ethical and Legal Considerations for the Clinical Laboratory Technician**	• What is HIPAA? • What is patient confidentiality? • Does a patient have rights? • What does it mean to be ethical? • What is patient's consent? • What is medical law? • What is diversity? • What is the difference between flirting and sexual harassment?	• Define HIPAA and explain how to provide confidentiality for health information. • List privileged information. • Discuss several medical laws. • Explain the patient's bill of rights, informed consent, and patient confidentiality. • Explain examples of situations that might result in legal action. • Explain how cultural diversity affects the workplace. • Discuss types of sexual harassment and workplace violence.	• Human Bingo • Chapter Activity Worksheet • Confidentiality and HIPAA Activity • Patient Confidentiality Quiz • Cultural Diversity Partner Project • "Connect the Dots" Activity • Online Assessment	**Career Ready Practices** CRP 1,4,5,9,12	**ELA** 9-10R 1,2,4,8 9-10W 2,4 9-10SL 1 9-10L 1,2,3,6
				Cluster Standards HL 2,4,5,6 ST 4	**Literacy** RST 1,2,4 WHST 2,4,7
				Pathway Standards HL-DIA 1 ST-SM 2	**Science**
Weeks 20-21 **Medical Terminology for the Laboratory Professional**	• How do healthcare professionals communicate? • What are some basic medical abbreviations used in the laboratory • What is a stem word? • What is a prefix? • What is a suffix?	• Explain why it is important to have a working knowledge of medical terminology in healthcare. • Use common medical abbreviations to complete laboratory orders. • Distinguish parts of a medical term. • Construct medical terms using stems, prefixes, and suffixes.	• Jeopardy • Medical Terminology Activity Packet • Medical Terminology Quiz • "Mini Me" Project • Medical Terminology Exam • Online Assessment	**Career Ready Practices** CRP 2,4	**ELA** 9-10R 1,2,4,8 9-10W 2,4 9-10L 1,2,3,6
				Cluster Standards HL 1 ST 6	**Literacy** RST 1,2,4 WHST 2,4,5
				Pathway Standards HL-DIA 1,5	**Science**
Weeks 22-23 **Introduction to Medical Math**	• What are the basic metric units? • What is the importance of properly using the metric system? • How is volume and weight measured using the metric system? • How is Fahrenheit temperature converted to Celsius? • What is the 24 (military time) hour clock?	• Convert English units to metric units. • Convert metric units to English units. • Convert units within the metric system. • Perform measurements using the metric system. • Convert standard time to 24-hour clock. • Convert 24-hour clock to standard time.	• Metric System Quiz • Metric System Measurement Worksheet • Metric System Unit Test • Quiz on 24-Hour Clock • Online Assessment	**Career Ready Practices** CRP 2,8	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6
				Cluster Standards HL 1 ST 6	**Literacy** RST 1,2,4,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 5 ST-SM 2,4	**Science**
Weeks 24-29	• What are the classes of	• Differentiate microorganisms.	• Hand Washing	**Career Ready Practices** CRP 1,2,3,5,8,9	**ELA** 9-10R 1,2,4,8

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
Infection Control Practices in the Laboratory	microorganisms? • What are the components of the infectious cycle? • What are Standard Precautions? • What is Personal Protective Equipment (PPE)? • What is the proper way to wash hands using aseptic technique? • How are contaminated gloves removed properly? • What is the proper way to dispose of needles in the laboratory? • How is contaminated material disposed of safely in the laboratory?	• List the components of the infectious cycle. • Obtain information on methods of transmission, signs and symptoms, treatment, and complications of an infectious disease. • Explain Standard Precautions. • Choose the proper PPE and observe Standard Precautions while in the laboratory setting. • Explain and demonstrate of proper hand washing and glove removal. • Demonstrate proper disposal of sharps and non-sharp medical waste.	Performance Based Assessment • Glove Removal Performance Based Assessment • Microorganism Foldable • Disinfectant Lab Report • Disease Transmission Lab • Infectious Cycle Quiz • "What's in the Pillow" Lab • Infectious Disease PowerPoint Presentation-Rubric • "Foreign Trip" • Infection Control Unit Test • Online Assessment		9-10W 2,4 9-10SL 1,2,4,5 9-10L 1,2,3,6
				Cluster Standards HL 3,4 ST 3,6	**Literacy** RST 1,2,4,7 WHST 2,4,7
				Pathway Standards HL-DIA 5	**Science** HS-LS2-1 HS-LS2-8
Weeks 30-33 **Laboratory Safety: Physical, Chemical, and Biological Hazards**	• What are the Centers for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA)? • Why must laboratory safety rules be observed? • What are laboratory hazards? • What is a Safety Data Sheet (SDS)? • How is HIV or hepatitis contracted? • What steps should be taken if a lab accident occurs? • How are lab counters disinfected? • What is the National Fire Protection Association (NFPA) diamond? • What type of fire extinguisher is used for chemicals in the lab?	• Identify the role of the CDC and OSHA in providing laboratory safety. • Construct a laboratory safety poster. • Produce a SDS for a laboratory chemical. • Distinguish the difference between antiseptic and disinfectant. • Measure and transfer a solution using a graduated cylinder. • Demonstrate how and when to use the eyewash and emergency shower in the laboratory. • Prepare a 10% bleach solution using proportions. • Create a NFPA chemical label. • Relate each class of fire extinguisher to the specific fire it is used for. • Simulate the operation of a fire extinguisher.	• Safety Poster Rubric • SDS and NFPA Labeling Project - Rubric • Preparing a 10% Bleach Solution Performance Skill • Working with Proportions Quiz • Laboratory Safety Unit Test • Online Assessment	**Career Ready Practices** CRP 1,2,3,5,8,9	**ELA** 9-10R 1,2,4,8 9-10W 2,4 9-10L 1,2,3,6
				Cluster Standards HL 3,4 ST 3,6	**Literacy** RST 1,2,4,7,9 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 5	**Science** HS-LS2-1 HS-LS2-8 HS-PS1-11
Weeks 34-37 **Circulatory System**	• How does blood circulate through the body? • Why does the heart make a lub-dub sound? • What is in the blood? • How are blood cells identified when using a microscope?	• Label the structures of the heart. • Construct a diagram of the pathway of blood through the heart. • Differentiate the anatomy and function of arteries, veins, and capillaries. • List the major components of blood. • List five plasma components. • Describe and explain the function of each	• Structure of the Heart Quiz • Diagram of the Pathway of the Blood Through the Heart • Blood Vessel Quiz • Pulse and Blood Pressure Lab • White Blood Cell (WBC)	**Career Ready Practices** CRP 2,3,4,6,7,8,11	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6
				Cluster Standards HL 1 ST 6	**Literacy** RST 1,2,4,7,9 WHST 2,4,5,6,7
				Pathway Standards	**Science**

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
		blood cell. • Identify and differentiate blood cells using a microscope and digital images.	Foldable-Rubric • Leukocyte Labeling Activity • Circulatory Unit Test • Online Assessment	HL-DIA 5 ST-SM 2	HS-LS-2
Weeks 38-39 **The Microscope**	• How is a microscope used? • What are all the parts of a light microscope?	• Identify the parts of a light microscope. • Demonstrate the use of coarse and fine adjustments. • Utilize the low, high, and oil immersion objectives. • Adjust the condenser and iris diaphragm. • Demonstrate proper care and storage of a microscope.	• Microscope Labeling Quiz • Student Enrichment Worksheet • Microscope Performance Assessment • Online Assessment	**Career Ready Practices** CRP 2,8	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6
				Cluster Standards HL 4 ST 3,5,6	**Literacy** RST 1,2,4,7,9 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 5 ST-SM 2,4	**Science** PS4.C
Week 40 **Review and Final Examination**	• What were my learning goals this year in laboratory technology?	• Complete the assessment demonstrating a thorough knowledge of laboratory technology.	• Final Assessment	**Career Ready Practices** CRP 2,7,8,10,12	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6
				Cluster Standards HL 1 ST 6	**Literacy** RST 1,2,4 WHST 2,4
				Pathway Standards HL-DIA 5 ST-SM 2,4	**Science** HS-LS-2 HS-LS2-1 HS-LS2-8 HS-PS1-11

Return to TOC

Syracuse City School District
Career and Technical Education Program
Course Syllabus
CLT 200: Clinical Lab Technology 200

Program Overview

Students enrolled in the Clinical Lab Technology program will acquire the knowledge and technical skills that will prepare them either for positions as entry level laboratory assistants or for advanced placement in post-secondary education. Students will gain practical learning experience through scientific investigations and experiments, as well as the collection and testing of samples, writing reports, and presenting information in a state-of-the-art, high-tech laboratory setting. As a career link, established partnerships with many local businesses and medical facilities provide students with internships and potential future employment opportunities. In addition, students have the opportunity to earn a Career and Technical Endorsement on their diploma by successfully passing an industry-standard technical assessment.

Course Description

This course gives students an introduction to the basic skills and equipment used in the clinical laboratory. Students will be oriented to the elements of quality control and laboratory mathematics. The course gives students a review of clinical assays used in the clinical laboratory. Students are introduced to the techniques for safe collection and handling of specimens for laboratory analysis.

Pre-Requisites

CLT 100: Clinical Lab Technology 100

Course Objectives

By the end of the Clinical Lab Technology 200 course students will:

1. Participate in hands-on activities and create products to demonstrate the knowledge and skills of a clinical lab technician.
2. Understand the career application of clinical lab technology information through participation in field experiences.
3. Demonstrate skills in processing self-knowledge in relation to the clinical lab technology course and program, the world of work, and future planning.
4. Describe safety regulations and best practices in the laboratory.
5. Identify and explain the use of common laboratory equipment.
6. Perform common laboratory mathematical calculations.
7. Describe what a quality assurance program is and identify common components.
8. Discuss the function of hematology, chemistry, microbiology, urinalysis, immunology, and immunohematology labs in regard to the type of specimen analyzed and the type of testing performed.

Integrated Academics

.5 Health Credit (CHE 100)

Equipment and Supplies

- **School will provide:** All textbooks and laboratory supplies
- **Student will provide:** Closed toed shoes for laboratory setting, externship professional attire, and a three-ring binder

Textbook

Estridge, Barbara H., and Anna P. Reynolds. 2008. *Basic Clinical Laboratory Techniques, 5th Edition.* Clifton Park, NY: Delmar Cengage Learning.

Grading

Grades will be calculated as follows:

30% Projects/Labs/Presentations/Papers
30% Class work/Homework/Energizers

20% Tests/Quizzes
20% Class Participation (attendance, cooperation, classroom discussion, preparation)

Additional Course Policies

- Attendance is critical for program success. A large percentage of students' grades are based on attendance. Students who attend all class meetings are more likely to accomplish the course successfully.
- A daily grade is awarded on attendance, attitude, professionalism, and participation.
- If students are absent from class they will lose participation points for that day.
- If it is an unexcused absence, students will not be able to receive any participation points for that day.
- If students are absent, any missed work will be placed in the student's mailbox to be completed. It is the student's responsibility to check for missing assignments.
- Cells phones are not allowed in the laboratory or classroom. They need to be turned off.
- Use of cell phone will result in lost participation points and possible confiscation of the student's phone. Calls and texts can be made before or after class, or during break.
- Professional behavior is expected at all times.

Course Calendar

Quarter	Units of Study
1	• Introduction to Classroom Practices • Study Skills: Being Successful in CLT 200 • Review of Laboratory Safety: Physical, Chemical, and Biological Hazards • The Microscope • Common Labware • Introduction to Medical Math and Basic Laboratory Calculations
2	• Introduction to Urinalysis • Introduction to Phlebotomy • Basic Clinical Chemistry Tests and Quality Assurance
3	• Basic Hematology • Immunology and Immunohematology
4	• Basic Microbiology • Review and Final Examination

Syracuse City School District
Career and Technical Education Program
Scope and Sequence
CLT 200: Clinical Lab Technology 200

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
Week 1 **Introduction to Classroom Practices**	• What are the classroom procedures for CLT? • What are the rules for classroom safety? • How will Blackboard be used this year? • What advice can a sophomore in a P-Tech program give a freshman?	• Review, explain and follow classroom procedures. • Discuss general classroom and lab safety. • Participate in online discussions and use a grading rubric. • Develop a "Letter for Success" for incoming freshmen.	• General Safety Quiz • Compliance of Classroom Procedures • "Letters for Success"	**Career Ready Practices** CRP 2,6,7,10,11	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10SL 1 9-10L 1,2,3
				Cluster Standards HL 1,3 ST 3,5	**Literacy** RST 1,2,4 WHST 2,4,5,6,7
				Pathway Standards ST-SM 2,4	**Science**
Week 2 **Study Skills: Being Successful in CLT 200**	• How can I develop study skills in order to be successful in Laboratory Technology? • How can I manage my time this year? • How can I improve note-taking? • How do I use the features of my textbook? • How do I study to prepare for a test?	• Identify the importance of motivation and having a good attitude for achieving school and career goals. • Evaluate ways to manage time. • Utilize skills that will help get the most benefit from lectures, labs, and readings. • Demonstrate effective note-taking. • Describe how their textbook is organized and how to use its features. • Investigate various study skills for test taking.	• Goal Setting Reflection Worksheet • Self-Evaluation Checklists • Critical Thinking Exercise-Round Robin • Chapter Review Questions • Improving Study Habit Questionnaire • "What Did I Learn" Worksheets • Textbook Scavenger Hunt	**Career Ready Practices** CRP 1,2,4,8,10,12	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10SL 1,3 9-10L 1,2,3,6
				Cluster Standards HL 1,4,5 ST 6	**Literacy** RST 1,2,4,5 WHST 2,4,7
				Pathway Standards HL-DIA 4 ST-SM 3	**Science** ETS1.B
Week 3 **Review of Laboratory Safety: Physical, Chemical, and Biological Hazards**	• Why must laboratory safety rules be observed? • What are some common laboratory hazards? • What are Standard Precautions? • What is a bloodborne pathogen? • What is OSHA, and Right to Know? • What PPE should be worn in the lab? • How is handwashing done using aseptic technique? • How are contaminated gloves removed properly? • What is the proper way to dispose of needles in the	• List safety regulations that pertain to the clinical lab. • Give examples of physical and chemical hazards in the lab. • Explain Standard Precautions. • Explain OSHA's Bloodborne Pathogen policy. • Demonstrate proper handwashing techniques. • Choose the proper PPE and observe Standard Precautions while in the laboratory setting. • Explain and demonstrate of proper hand washing and glove removal. • Demonstrate proper disposal of sharps and non-sharp medical waste. • List the components of the infectious cycle.	• Safety Poster Rubric • Chapter Activity Worksheet	**Career Ready Practices** CRP 1,2,8,12	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6
				Cluster Standards HL 3,4,5 ST 3,6	**Literacy** RST 1,2,4,7 WHST 2,4,5
				Pathway Standards HL-DIA 5 ST-SM 2	**Science** ETS1.B

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	laboratory? • How are contaminated materials disposed of safely in the laboratory? • What are the components of the infectious cycle? • How are lab counters disinfected? • What steps should be taken during a lab spill accident?	• Prepare and use a 10% bleach solution to disinfect patient areas. • Demonstrate the use of the eyewash and emergency shower in the laboratory.			
Weeks 4-5 **The Microscope**	• How is a microscope used? • What are all the parts of a light microscope? • How are the fine and coarse adjustments used? • How is a slide viewed under low, high and oil immersion objectives? • What is the proper cleaning, storage, and care of a microscope?	• Point-out and name the parts of a light microscope. • Demonstrate the use of coarse and fine adjustments. • Utilize the low, high, and oil immersion objectives. • Adjust the condenser and iris diaphragm. • Demonstrate proper care and storage of a microscope.	• Microscope Labeling Quiz • Student Enrichment Worksheet • Microscope Performance Skill	**Career Ready Practices** CRP 2,8 **Cluster Standards** HL 4 ST 3,5,6 **Pathway Standards** HL-DIA 5	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6 **Literacy** RST 1,2,4,7 WHST 2,4 **Science** PS4.C
Week 6-7 **Common Labware**	• Why are there so many types of labware in the lab? • What are the characteristics of different types of labware? • How are different types of labware used? • How are liquids measured in the laboratory? • What is an autoclave and how is it used?	• Identify five basic types of containers used in the lab. • Identify three types of flasks. • Demonstrate proper care and cleaning of labware. • Differentiate between volumetric vs. serological pipettes. • Describe the operation of manual and automatic pipettes. • Demonstrate use of micropipettes. • Measure and transfer liquids using pipettes/labware. • Differentiate between critical and non-critical measurements. • Explain the proper use of an autoclave.	• Labware Measurement Activity • “Who Am I” White Board Assessment • Lab Review Questions • Unit Assessment	**Career Ready Practices** CRP 1,2,8 **Cluster Standards** ST 6 **Pathway Standards** HL-DIA 3,5 ST-SM 2	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6 **Literacy** RST 1,2,4,7 WHST 2,4,5,6,7 **Science** HS-LS1-3
Week 8-10 **Introduction to Medical Math and Basic Laboratory Calculations**	• How is math used in the laboratory? • What are the basic metric units? • What is the importance of properly using the metric system? • How is Fahrenheit	• Convert English units to metric units. • Convert metric units to English units. • Convert units within the metric system. • Perform measurements using the metric system. • Convert standard time to 24-hour clock. • Convert 24-hour clock to standard time.	• Metric System Quiz • Metric System Measurement Worksheet • Metric System Olympics • Metric System Scavenger Hunt • Metric System Unit Test • Military Time Matching	**Career Ready Practices** CRP 2,8 **Cluster Standards** HL 1,3 ST 2,3,6 **Pathway Standards**	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6 **Literacy** RST 1,2,4,7 WHST 2,4,5,6,7 **Science**

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	converted to Celsius? • What is the 24-hour (military time) clock? • How are measurements of volume and weight performed using the metric system? • How dilutions of reagents prepared in the laboratory? • How are reagents prepared using proportions or ratios? • What are serial dilutions?	• Perform basic laboratory measurements. • Perform ratio, proportion, and percentage calculations. • Prepare percent solutions. • Prepare a reagent using proportions or ratios. • Select proper tools for preparing reagent. • Prepare a 10% bleach solution. • Prepare serial dilutions. • Describe how to prepare Normal and Molar solutions.	• Quiz On 24-Hour Clock • Proportions Quiz • Reagent Preparation Skill • Student Activity Worksheet • Unit Test	HL-DIA 4,5 ST-SM 1,3,4	
Week 11-14 **Introduction to Urinalysis**	• What are the parts of the urinary system? • How does the kidney function and produce urine? • How is urine collected and tested? • What are the three parts of a urinalysis? • What information can a urinalysis provide?	• Identify parts of the urinary system. • Illustrate various parts of the kidney. • Summarize how urine is formed. • Summarize the importance of collection and storage of urine. • Differentiate the four types of urine specimens and explain how they are collected. • List the three parts of a urinalysis. • Perform a physical exam of urine. • Design a reference chart for urine chemical tests. • Perform and interpret a chemical exam of urine. • Prepare a urine sediment for microscopic exam. • Name and explain the significance of casts/crystals/cells found in urine sediment. • Perform a urine hCG test and interpret results.	• "How is Urine Tested?" Lab • Urinary System Quiz • Urine Collection Quiz • Physical Exam Case Study • Physical Exam of Urine Skill • Physical Exam of Urine Test • Chemical Exam Reference Chart • Chemical Exam of Urine Skill • Chemical Exam of Urine Test • Urine Microscopic Sediment Skill • Urine hCG Lab/Skill	**Career Ready Practices** CRP 1,2,4,6,7,8,11,12 **Cluster Standards** HL 1,2,3,4 ST 3,6 **Pathway Standards** HL-DIA 1,2,4,5 ST-SM 2,3,4	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6 **Literacy** RST 1,2,4,7 WHST 2,4,5,6,7 **Science** HS-LS1-2 HS-LS1-3
Week 15-17 **Introduction to Phlebotomy**	• How is a venipuncture performed? • What equipment is needed to perform a venipuncture? • What are the various types of anticoagulant? • Why are tubes drawn in a certain order? • What do the different color tubes mean?	• Describe the components of the vacuum tube system. • List the various types of evacuated blood tubes and their anticoagulants. • Demonstrate the "order of draw". • Select the equipment needed to perform a venipuncture. • Complete a laboratory requisition. • Interpret testing needed from laboratory requisition.	• Venipuncture Equipment Identification Chart • Order of Draw Relay Races • Order of Draw/Anticoagulant Poster Project • Order of Draw/Anticoagulant Skill • Tourniquet Application	**Career Ready Practices** CRP 1,2,4,6,7,8,11,12 **Cluster Standards** HL 1,2,3,4 ST 3,6 **Pathway Standards** HL-DIA 1,2,4,5 ST-SM 2,3,4	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6 **Literacy** RST 1,2,4,7 WHST 2,4,5,6,7 **Science** HS-LS1-2

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	• What information must be on the tube and the patient requisition? • How is a tourniquet applied? • What vein is used for drawing blood? • What are the steps in post-phlebotomy patient care?	• Label a blood tube with correct documentation. • Name safety precautions to be followed during a venipuncture. • Demonstrate patient identification prior to venipuncture. • Correctly apply and release a tourniquet. • Describe the post-phlebotomy steps in patient care.	• Quiz - Tubes and Anticoagulants • Unit Test		
Week 18-21 **Basic Clinical Chemistry Tests and Quality Assurance**	• What information do blood chemistries provide? • How is blood chemistry measured in the lab? • How does the body maintain homeostasis with blood chemistries? • What is the importance of blood glucose and lipid levels in the blood? • What tests are performed to measure blood glucose and lipids? • How does quality control pertain to the laboratory? • What is the difference between accuracy and precision? • What is a Levey-Jennings chart? • What does “in control” mean?	• List components of common laboratory panels. • Name common methodologies used in clinical chemistry. • List the parts of a spectrophotometer. • Explain the function of glucose in the body. • Identify factors that affect blood glucose levels. • Differentiate collection requirements for various glucose tests. • Perform a blood glucose measurement. • Explain the function of lipids in the body including HDL vs. LDL. • Calculate risk factors based on HDL and LDL. • Perform lipid testing. • Evaluate quality assessment for lipid and glucose testing. • Differentiate the use of standards vs. controls. • Define and utilize Levey-Jennings charts. • Detect when a control is out of control. • Detect a shift or a trend in a method.	• Patient Case Studies • Diabetes Testing Lab • Glucose Monitor Lab/Skill • Lipid Testing Lab • Unit Case Studies	**Career Ready Practices** CRP 1,2,4,6,7,8,11,12 **Cluster Standards** HL 1,2,3,4 ST 3,6 **Pathway Standards** HL-DIA 1,2,4,5 ST-SM 2,3,4	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6 **Literacy** RST 1,2,4,7 WHST 2,4,5,6,7 **Science** HS-LS1-2 HS-LS1-3
Week 22-27 **Basic Hematology**	• How does blood circulate through the body? • Why does the heart make a lub-dub sound? • What is in the blood? • How does blood clot? • How are blood cells identified using a microscope? • What information do blood	• Label the structures of the heart. • Construct a diagram of the pathway of blood through the heart. • Differentiate the anatomy and function between arteries, veins, and capillaries. • List the major components of blood. • State three functions of the blood. • List and describe five plasma components. • Explain the function of each blood cell.	• Structure of The Heart Quiz • Diagram of The Pathway of The Blood Through the Heart • Blood Vessel Quiz • Pulse and Blood Pressure Lab • WBC Foldable-Rubric • Leukocyte Labeling	**Career Ready Practices** CRP 1,2,4,6,7,8,11,12 **Cluster Standards** HL 1,2,3,4 ST 3,6 **Pathway Standards** HL-DIA 1,2,4,5 ST-SM 2,3,4	**ELA** 9-10R 1,2,4 9-10W 2,4,5,6,7 9-10SL 1,4 9-10L 1,2,3,6 **Literacy** RST 1,2,4,7 WHST 2,4,5,6,7 **Science** HS-LS1-2 HS-LS1-3

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	cells provide about overall health? • What are some common blood disorders? • What are CBC and HCT and what does each measure? • What is hemoglobin (Hgb)? • What equipment is used for different types of blood tests? • How are specimens prepared?	• Identify and differentiate blood cells using a microscope. • Discuss the origin of blood cells. • Name three functions of the hematology lab. • Research a hematological disease. • Demonstrate the preferred specimen for hematology testing. • Differentiate reference values for various hematology tests. • Explain the components of a CBC (Complete Blood Count) and what each one measures. • Perform an automated CBC. • Perform a HCT (Hematocrit). • Discuss the main components of Hgb. • Perform a Hgb using an analyzer. • Name the two dyes used in Wright's Stain. • Prepare and stain a blood smear for differential count using Wright's Stain. • Perform an Erythrocyte Sedimentation Rate. • Identify and locate the parts of a hemocytometer. • Utilize a microscope to identify ruled counting areas of a hemocytometer. • Demonstrate how to use a Unopette system.	Activity • Circulatory Unit Test • Patient Case Studies • Chapter Review Questions • Performance Based Skills • Leukemia Research Project/ • Presentations • Unit Exam		
Week 28-33 **Immunology and Immuno-hematology**	• What is the difference between natural resistance and acquired immunity? • What are the characteristics of specific immunity? • What is the difference between antigens and antibodies? • What are five different classes of antibodies? • Why do people get vaccinated? • What are the principles of some common antibody-	• Explain the difference between natural resistance and acquired immunity. • State three characteristics of specific immunity. • Name the major cells involved with specific immunity. • Diagram the structure of an antibody molecule. • Differentiate the terms antigen and antibody. • Describe the five different antibody classes. • Explain the principles of some common antibody-antigen tests such as IM (Infectious Mononucleosis). • Perform and interpret a rapid IM test.	• Immunoglobulin Matching Quiz • ABO Worksheets • Punnett Square Quiz • ABO Quiz • ABO Typing Lab and Skill • Unit Test • IM Lab and Skill	**Career Ready Practices** CRP 1,2,4,6,7,8,11,12 **Cluster Standards** HL 1,2,3,4 ST 3,6 **Pathway Standards** HL-DIA 1,2,4,5 ST-SM 2,3,4	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6 **Literacy** RST 1,2,4,7 WHST 2,4,5,6,7 **Science** HS-LS1-2

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	antigen tests? • How is blood type determined?	• Name the four blood groups in the ABO system. • Demonstrate how blood groups are inherited. • Explain forward and reverse grouping. • Perform and interpret ABO slide typing.			
Week 34-39 **Basic Microbiology**	• How is the type of infection determined? • What are the three basic shapes of bacteria? • What are aseptic techniques in bacteriology? • What is the difference between antiseptics and disinfectants? • What are the techniques used to inoculate media? • How are microbiological smears prepared? • How does a health professional determine what antibiotics to prescribe?	• Diagram the three basic shapes of bacteria. • Demonstrate aseptic techniques in bacteriology. • Differentiate between antiseptics and disinfectants. • Demonstrate how to inoculate media and quadrant streaking techniques. • Define alpha, beta, and gamma hemolysis as they appear on blood agar. • Prepare microbiological smears. • Perform the gram stain procedure. • Identify Gram-positive and Gram-negative organisms on a smear. • Discuss the importance of identifying Grp A strep. • Perform a rapid strep test for Grp A Strep.	• Streaking A Media Plate Lab/Skill • Preparing and Staining a Microbiological Smear Lab/Skill • Grp A Strep Lab/Skill • Microbiology Unit Test	**Career Ready Practices** CRP 1,2,4,6,7,8,11,12	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6
				Cluster Standards HL 1,2,3,4 ST 3,6	**Literacy** RST 1,2,4,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1,2,4,5 ST-SM 2,3,4	**Science** HS-LS1-1
Week 40 Review and Final Examination	• What were my learning goals this year in laboratory technology?	• Complete the assessment demonstrating a thorough knowledge of laboratory technology.	• Final Assessment	**Career Ready Practices** CRP 7,8,10,12	**ELA** 9-10R 1,2,4 9-10W 2,4 9-10L 1,2,3,6
				Cluster Standards HL 1	**Literacy** RST 1,2,4,7 WHST 2,4
				Pathway Standards HL-DIA 5 ST-SM 2,4	**Science** HS-LS1-1 HS-LS1-2 HS-LS1-3

Return to TOC

Syracuse City School District
Career and Technical Education Program
Course Syllabus
CLT 300: Clinical Lab Technology 300 – Anatomy and Physiology

Program Overview

Students enrolled in the Clinical Lab Technology program will acquire the knowledge and technical skills that will prepare them either for positions as entry level laboratory assistants or for advanced placement in post-secondary education. Students will gain practical learning experience through scientific investigations and experiments, as well as the collection and testing of samples, writing reports, and presenting information in a state-of-the-art, high-tech laboratory setting. As a career link, established partnerships with many local businesses and medical facilities provide students with internships and potential future employment opportunities. In addition, students have the opportunity to earn a Career and Technical Endorsement on their diploma by successfully passing an industry-standard technical assessment.

Course Description

CLT 300 integrates the skills and knowledge learned in previous Clinical Lab Technology courses. This is a laboratory-based course that investigates the structure and function of the human body. Topics covered will include the basic organization of the body, biochemical composition, and major body systems along with the impact of diseases on certain systems. Students will engage in many topics to truly understand the structure and function of the human body. Working from the topics of basic anatomical terminology and the biochemical composition of the human body, to detailed investigation of each of the major systems of the body, students will learn through reading materials, study guides, unit worksheets, group work, projects, and labs. Students will also expand on their professional skills through field trips, internships, research, and professional certifications. Upon completion of this course, students will be well-prepared for CLT 400: Clinical Lab Technology 400.

Pre-Requisites

CLT 100: Clinical Lab Technology 100
CLT 200: Clinical Lab Technology 200

Course Objectives

By the end of the Clinical Lab Technology 300 course students will:

1. Explain the concept of homeostasis, how it interrelates basic human body functions and life processes, and demonstrate a knowledge of the organization of the human body.
2. Describe the major anatomical components of each human body system studied, describe their anatomical locations and structures, and explain their physiological functions at both the organ and cellular levels.
3. Apply the concepts learned in the lecture to understand and analyze laboratory activities and observations.
4. Obtain healthcare provider CPR, First Aid, and Phlebotomy Certification.
5. Complete job shadows and internship experiences.

Integrated Academics

1 CTE Integrated Science Credit

Equipment and Supplies

- **School will provide:** All textbooks and laboratory supplies
- **Student will provide:** Closed toed shoes for laboratory setting, externship professional attire, and a three-ring binder

Textbooks

- Martini, Nath, Bartholomew. 2015. Fundamentals of Anatomy and Physiology, 10th edition.
- Marieb & Smith. 2016. Human Anatomy and Physiology Laboratory Manual (cat version), 12th edition.

NOTE: Older and/or used editions are acceptable. Keep in mind that page numbers may be different.

Grading

Grades will be calculated as follows:

30% Projects/Labs/Presentations/Papers
30% Class work/Homework/Energizers
20% Tests/Quizzes
20% Class Participation (attendance, cooperation, classroom discussion, preparation)

Additional Course Policies

- Attendance is critical for program success. A large percentage of students' grades are based on attendance. Students who attend all class meetings are more likely to accomplish the course successfully.
- A daily grade is awarded on attendance, attitude, professionalism, and participation.
- If students are absent from class they will lose participation points for that day.
- If it is an unexcused absence, students will not be able to receive any participation points for that day.
- If students are absent, any missed work will be placed in the student's mailbox to be completed. It is the student's responsibility to check for missing assignments.
- Cells phones are not allowed in the laboratory or classroom. They need to be turned off.
- Use of cell phone will result in lost participation points and possible confiscation of the student's phone. Calls and texts can be made before or after class, or during break.
- Professional behavior at all times is expected.

Course Calendar

Quarter	Units of Study

1	• Homeostasis
	  ○ Basic Chemistry
	  ○ Biochemistry
	• Cell Physiology
	  ○ Cell Structure, Function, and Reproduction
	  ○ Cellular Transport and Protein Synthesis
	  ○ Cellular Energetics
	• Tissues
	  ○ Integumentary System
	  ○ Bone
	  ○ Muscles

2	• Respiratory System • Urinary System • Professional Skills

3	• Central Nervous System
	  ○ Electrophysiology and Neurons
	  ○ Spinal Cord and Reflexes
	  ○ The Brain
	• Peripheral Nervous System
	  ○ Sensory Pathways – Somatic Nervous System
	  ○ Autonomic Nervous System
	• Endocrine System
	• Cardiovascular System
	  ○ Blood
	• The Heart

4	• Cardiovascular System: Blood Vessels and Regulation • Immune System • Digestive System • Reproductive System • Professional Certifications

Syracuse City School District
Career and Technical Education Program
Scope and Sequence
CLT 300 – Health Professions Level 300 – Anatomy and Physiology

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
Weeks 1-2 **Homeostasis: Basic Chemistry**	• What is matter and how is it organized to form different structures? • How does the structure of an atom make each element unique? • Why is homeostasis important and what are the results of a homeostatic imbalance? • How can directional terms and regional terms help describe location in the body?	• Identify the sub-atomic particles, their charges, and their role in atomic structure. • Differentiate between elements, molecules, and compounds. • Identify common elements and ions within the human body. • Identify a molecule as either polar or nonpolar. • Compare and contrast ionic, covalent and hydrogen bonds. • State how the structure of water relates to its function. • Explain the concept of homeostasis and discuss the importance of homeostatic regulation. • Demonstrate the correct use of directional and regional terms.	• Lab Reports • Practice Worksheets • Discussions • Graphic Organizer • Case Study Analysis • Quiz	**Career Ready Practices** CRP 1,2,4,7,8,11,12	**ELA** 11-12R 1,4 11-12W 1,2,4,5 11-12SL 1,4 11-12L 1,2,3,6
				Cluster Standards HL 1 ST 2,6	**Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1 ST-SM 1,2,4	**Science** HS-LS1-3
Week 3 **Homeostasis: Biochemistry**	• How do molecules bond together to form larger molecules? • What is an organic molecule and how does it differ from an inorganic molecule? • Which monomers are used to build the major macromolecules used in the body? • How are the major macromolecules used in the body? • What is the function of DNA and RNA? • What is ATP used for in living things? • How does protein structure affect its function? • What role do enzymes play in chemical reactions? • How does structure of an enzyme determine its	• Describe the general structure of a macromolecule, including the reactions used to synthesize and break down. • Describe the structure and functions of the following classes of carbohydrates: monosaccharides, disaccharides, and polysaccharides. • Describe the structure and functions of the following classes of lipids: fatty acids, glycerides, eicosanoids, steroids, phospholipids, and glycolipids. • Describe the structure and functions of the following classes of nucleic acids: DNA and RNA. • Describe the structure and function of ATP. • Describe protein structure, including the four levels of structural complexity and how protein structure can be disrupted by denaturation. • List the primary functions of proteins in the body. • Explain the function and importance of enzymes.	• Lab Reports • Practice Worksheets • Discussions • Models • Case Study Analysis • Unit Test	**Career Ready Practices** CRP 1,2,4,7,8,11,12	**ELA** 11-12R 1,4,7 11-12W 1,2,4,5 11-12SL 1,4 11-12L 1,2,3,6
				Cluster Standards HL 1 ST 2,6	**Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1 ST-SM 1,2,4	**Science** HS-LS1-6

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	function?				
Week 4 **Cell Physiology: Cell Structure, Function, and Reproduction**	• What is a cell? • What is an organelle and how does each organelle contribute to cell function? • How would cell function change if organelles did not work together? • How do cells reproduce? • What is the purpose of asexual reproduction? • What are the steps of mitosis? • What are the end products of mitosis?	• Identify and explain the function of eukaryotic cell organelles. • Explain the stages of cell cycle, including interphase, mitosis, and cytokinesis. • Identify mitosis as a form of asexual reproduction. • Explain the role of mitosis in the human body. • List and explain the steps of mitosis. • Describe how mitosis forms two genetically identical, diploid daughter cells.	• Lab Reports • Practice Worksheets • Discussions • Student-Created Diagrams • Models • Case Study Analysis • Research Summaries • Quiz	**Career Ready Practices** CRP 1,2,4,7,8,11,12	**ELA** 11-12R 1,4,7 11-12W 1,2,4,5,6,7 11-12SL 1,4 11-12L 1,2,3,6
				Cluster Standards HL 1 ST 2,6	**Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1 ST-SM 1,2,4	**Science** HS-LS1-2
Week 5 **Cell Physiology: Cellular Transport and Protein Synthesis**	• How does the structure of the cell membrane determine what can enter/exit the cell? • What are the different mechanisms used to transport molecules across a cell membrane? • What effect do different types of solutions have on the movement of solutes? • How do cells move large molecules across the cell membrane? • What is the function of DNA? • How is a genetic trait determined? • What molecules make up the structure of DNA? • What are the bases that make up DNA and RNA and why are they important? • What are proteins and how are they used in the human body? • What are the steps required to produce a protein in a cell? • What happens to a protein after it is built? • How does protein structure	• Describe the structure and function of the plasma membrane. • List and describe the various types of passive cell transport. • Describe active cell transport. • Describe the various types of vesicular transport. • Describe the functions of the major cellular locations and components involved in gene expression including the nucleus, nuclear membrane, cytosol, ribosomes, rough endoplasmic reticulum. • List and describe the key enzymes, steps, and cellular components involved in the process of transcribing sequences of DNA into the three types of RNA. • Describe the specific processes involved in producing mRNA transcripts including initiation, elongation, and termination steps along with additional processing steps required to produce mature mRNA transcripts ready to be translated in the cytosol. • Describe the specific enzymes, cellular components, and processes involved in translation of mRNA including initiation, elongation, and termination steps along with additional processing steps required to produce functional proteins in either the cytosol or rough endoplasmic reticulum.	• Lab Reports • Practice Worksheets • Discussions • Models • Simulations • Research Summary • Quiz	**Career Ready Practices** CRP 1,2,4,7,8,11,12	**ELA** 11-12R 1,4,7 11-12W 1,2,4,5,6,7 11-12SL 1,4 11-12L 1,2,3,6
				Cluster Standards HL 1 ST 2,6	**Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1 ST-SM 1,2,4	**Science** HS-LS1-1

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	affect its function?				
Week 6 **Cell Physiology: Cellular Energetics**	• What is ATP used for in living things? • How does the structure ATP relate to its function? • What molecules are required to produce ATP? • What role does the presence of oxygen play in the production of ATP? • What are the steps involved in aerobic and anaerobic respiration? • How are hydrolysis and dehydrations synthesis used to recycle ATP?	• Describe the structure of ATP and explain how energy is stored in ATP. • Explain the pathways used in ATP production under both aerobic and anaerobic conditions. • Describe the pathways involved in cellular ATP production including glycolysis, Kreb's cycle and the electron transport chain. • Explain how energy is recycled using the processes of dehydration synthesis and hydrolysis of ATP/ADP.	• Lab Reports • Practice Worksheets • Discussions • Simulations • Research summaries • Unit Test	**Career Ready Practices** CRP 1,2,4,7,8,11,12	**ELA** 11-12R 1,4 11-12W 1,2,4,5,6,7 11-12SL 1,4 11-12L 1,2,3,6
				Cluster Standards HL 1 ST 2,6	**Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1 ST-SM 1,2,4	**Science** HS-LS1-1
Week 7 **Tissues: Integumentary System**	• What are the categories used to define levels of cellular organization in the human body? • What are the main types of tissues in the body? • How does the structure of tissue in the human body relate to its function? • What are the functions of skin? • How is the skin organized? • What types of tissue makes up the layers of the skin? • What role do accessory organs such as sweat glands and sebaceous glands play in the skin? • How does cellular structure of skin cells relate to their function? • What happens to skin as it is exposed to sunlight and as a person ages? • Which layers of the skin are damaged in different types of burns? • How does burn damage in the skin affect other functions in the body? • What events occur	• Explain the levels of organizational units used within the human body (organelles, cells, tissues, organs, organ systems). • Identify characteristics of the four categories of human tissue. • Identify the components and the general functions of the integumentary system. • List and describe the accessory structures of the integumentary system and their functions. • Explain why the histology of the epidermis is well suited for its function • Describe the distinctive features of each of the five layers of thick skin including the various cells present and the function of each. • Describe the characteristics of the hypodermis (subcutaneous layer) and explain how the components within the hypodermis contribute to its function. • Describe the life cycle of a keratinocyte and explain what happens to the keratinocytes, including the process of keratinization, as they move from the deepest layer to the most superficial. • Describe the general structure and characteristics of the dermis, including the papillary and reticular layers, and its association with the epidermis. • Explain what cleavage lines are and how they are useful to surgeons. • Explain the basis of fingerprints. • Describe the pigments responsible for	• Lab Reports • Practice Worksheets • Discussions • Models • Simulations • Case Study Summary • Detailed Scientific Drawings • Quiz	**Career Ready Practices** CRP 1,2,4,7,8,11,12	**ELA** 11-12R 1,4,7 11-12W 1,2,4,5 11-12SL 1,4 11-12L 1,2,3,6
				Cluster Standards HL 1 ST 2,6	**Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1 ST-SM 1,2,4	**Science** HS-LS1-6 HS-LS1-7

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	following superficial or deep skin damage?	producing various skin colors and identify where in the skin these pigments would be found. • Explain the danger and benefit of sun exposure and describe how melanocytes protect us from damaging UV radiation. • Differentiate among the three different types of skin cancer and identify the specific epidermal origin of each. • Briefly explain how the degree of a burn relates to the severity of the burn and the ability of the skin to heal. • Describe the events involved in epidermal wound healing and deep wound healing.			
Weeks 8-9 **Tissues: Bone**	• How does the skeletal system assist with protection in the body? • How does the structure of compact bone differ from the structure of spongy bone? • How does the overall structure of bone provide great strength and flexibility, but keep bone from being too bulky and heavy? • How can damage to a bone affect other human body systems? • What is bone remodeling? • How do osteoblasts and osteoclasts assist with bone remodeling and overall bone homeostasis? • What is the relationship between bone remodeling and blood calcium levels? • How do hormones assist in the maintenance of healthy bone and the release of calcium to be used in other body processes? • What are the four main stages of healing that occur after a bone fracture? • What role do joints play in	• Describe the functions of the skeletal system. • Describe the differences and similarities among cellular and extracellular components of osseous tissue. • Distinguish between compact and spongy bone. • Differentiate among the different types of bone cells in terms of their origin and development, characteristic features, function, general location and contribution to the growth and maintenance of the bone. • Describe the general features of a long bone, focusing more specifically on the area of longitudinal growth. • Compare and contrast endochondral and intramembranous ossification. • Describe how bones grow in length and in width. • Explain the process of bone remodeling and fracture repair. • Describe how nutrition, hormones and weight-bearing exercise affect bone growth and remodeling. • Describe how calcium balance is maintained and why calcium homeostasis is physiologically important to the skeleton. • Differentiate among the major categories of joints based on degree of movement and/or structure and explain how structure correlates with function. • Select a clinically important synovial joint and describe the organization, accessory structures, and function of that joint.	• Lab Reports • Practice Worksheets • Discussions • Detailed Scientific Drawings • Models • Simulations • Case Study Summary • Quiz	**Career Ready Practices** CRP 1,2,4,7,8,11,12 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL-DIA 1 ST-SM 1,2,4	**ELA** 11-12R 1,4 11-12W 1,2,4,5 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	the human body? • How are joints classified by both structure and function? • What are the different types of synovial joints?				
Weeks 10-11 **Tissues: Muscles**	• How do muscles assist with movement of the body and of substances around the body? • How are muscle fibers and membranes organized to form a whole skeletal muscle? • What do skeletal muscle structure and attachment to bones convey about function? • What are the requirements for muscle contraction? • How is the condition rigor mortis related to muscle contraction? • What role do calcium and ATP play in muscle contraction? • What is a sarcomere? • How does a sarcomere contract and lengthen to cause muscle contraction? • How do nerves interact with muscles? • How can we assess muscle function? • How does the body maintain a supply of ATP during exercise? • What is muscle fatigue? • How do the structure and function of the three types of muscle tissue compare? • How are muscles named?	• Identify and describe the key components of the connective tissue framework of muscle and tendons. • Identify all the major anatomical features of muscle cells/fibers and describe how each of these components function uniquely in driving excitation-contraction coupling. • Identify the key band, zone, and protein components of the sarcomere and explain how each function and change as part of the contraction cycle. • Describe all key components and steps in excitation-contraction coupling of muscle cells starting from a motor neuron and proceeding through the contraction cycle of actin and myosin. • Describe mechanisms in muscle fibers that regulate the duration and tension of the contraction and how relaxation and rigor mortis of muscles and muscle fibers occurs. • Explain how muscle cells and muscles as a whole regulate tension produced. • List the major energy sources for muscle fibers and how each source functions to provide ATP for contraction during various levels of activity. • Explain the key aspects of muscle metabolism including anaerobic metabolism and the implications of lactic acid production, as well as the metabolic processes that occur to drive aerobic muscle metabolism and muscle fiber recovery. • Describe the effects of fast twitch and slow twitch muscle fiber type, as well as training on muscle performance, including tension/force and endurance aspects. • Compare and contrast the key anatomical and functional differences between cardiac, smooth, and skeletal muscle and list major organs comprised on these various muscle types. • Identify the names and associated actions of	• Lab Reports • Practice Worksheets • Discussions • Models • Student Drawings • Simulations • Case Study Analysis • Research Report • Unit Test	**Career Ready Practices** CRP 1,2,4,7,8,11,12 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL-DIA 1 ST-SM 1,2,4	**ELA** 11-12R 1,4,7 11-12W 1,2,4,5,6,7 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
		muscles in both human and cat specimens, including the origins and insertions of these muscles.			
Weeks 1213 **Respiratory System**	• Why do we need oxygen? • What is the purpose of breathing and how does it occur? • How do muscles assist in the movement of air in and out of the respiratory system? • How does the oxygen we inhale move to cells? • How does diffusion facilitate gas exchange? • What changes in the respiratory system contribute to asthma? • Why is it valuable to measure lung capacity? • Why might some people be more efficient at capturing oxygen than others? • How does the respiratory system help regulate blood pH and CO_2 levels? • How is respiration rate regulated and what influences this rate?	• Describe the major functions of the respiratory system and protective features against pathogens, particles, and other hazards. • Differentiate between external and internal respiration. • Describe the basic organization of the respiratory system, identify the organs and structures including tissue composition from the nasal cavity to the alveoli and their associated functions. • Identify the structure of the larynx and describe its role in breathing and sound production. • Identify the gross structure of the lungs and pleurae and describe the importance of this structure in pulmonary ventilation. • Explain how gas exchange occurs at the respiratory membrane and how its structure relates to function. • Summarize the mechanisms governing movement of air into and out of the lungs and how Boyle's law relates to the sequence of events. • Identify the muscles responsible for respiratory movements and how these muscles contribute to inspiration or expiration. • Describe the various lung volumes and how they relate to lung capacities. • Describe Dalton's and Henry's Laws and how these laws are related to respiratory gas exchange. • Identify mechanisms of gas exchange in the lungs and the tissues including O_2 and CO_2 concentration gradients and net gas exchange. • Describe the structure and function of hemoglobin, and the transport of oxygen and carbon dioxide in the blood. • Describe how oxygen is transported in the blood, and explain how factors such as temperature, pH, BPG and pCO_2 affect oxygen loading and unloading. • Describe carbon dioxide transport in the	• Lab Reports • Practice Worksheets • Discussions • Models • Simulations • Case Study of Respiratory Disorder • Quiz	**Career Ready Practices** CRP 1,2,4,7,8,11,12 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL-DIA 1 ST-SM 1,2,4	**ELA** 11-12R 1,4 11-12W 1,2,4,5 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2 HS-LS1-3

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
		blood including the three forms of delivery and the influence of CO_2 on blood pH. • Explain the factors that influence rate and depth of breathing; locate the respiratory centers involved in the regulation of respiration and describe their roles in breathing control.			
Weeks 14-15 **Urinary System**	• What are the functions of the urinary system? • What are the major organs of the urinary system? • What is the general structure of the kidney and how does this structure relate to kidney function? • How does the kidney form urine? • What is the function of the nephron? • What is the relationship between blood and urine? • How do filtration, secretion and reabsorption in the nephron help maintain a fluid and electrolyte balance in the body? • How do the hormones ADH and aldosterone affect the nephron and the body's overall water balance? • What components are found in normal urine? • How do reflexes and voluntary muscle control work together to regulate release of urine from the body?	• Describe the general functions of the urinary system. • Identify anatomical structures of the urinary system and their histological characteristics, including: internal and external structures of the kidney, vasculature of the kidney, ureters, urinary bladder, and urethra. • Identify regions of the nephron and the surrounding capillaries. • Define filtration, reabsorption, and secretion with reference to urine production. • Describe the process of glomerular filtration, including how filtration pressure is calculated. • Explain the regulation of glomerular filtration rate by local, neural, and hormonal mechanisms. • Identify substances that are reabsorbed and/or secreted in the nephron, including the mechanism and location, such as: Na^+, K^+, Cl^-, glucose, H^+, and H_2O. • Describe the hormonal regulation of the reabsorption of Na^+ and water in the nephron. • Differentiate between obligatory and facultative water reabsorption. • Explain the role of the kidneys in the maintenance of acid/base balance. • Describe the normal composition of urine. • Describe the events that occur during the micturition reflex.	• Lab Reports • Practice Worksheets • Discussions • Simulations • Case Study Analysis • Unit Test	**Career Ready Practices** CRP 1,2,4,7,8,11,12 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL-DIA 1 ST-SM 1,2,4	**ELA** 11-12R 1,4 11-12W 1,2,4,5 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2 HS-LS1-7
Weeks 16-20 **Professional Skills**	• What is the purpose of a professional portfolio? • How can keeping a professional portfolio benefit you in your future studies and career? • What careers interest you the most and why? • What experiences can help you best prepare for college admissions and	• Write a professional resume appropriate for college admissions and job applications. • Create a professional portfolio that demonstrates mastery of program content, creativity, professionalism, and experience within their chosen field. • Complete an independent research project that investigates a medical topic of their choice and encompasses multiple investigative skills and content from the program.	• Portfolio • Peer Assessment • Supervisor Formal Evaluations • Practical Exam • Lab Report • Discussions • Student Reflections	**Career Ready Practices** CRP 1,2,4,7,8,9,10,11,12 **Cluster Standards** HL 1 ST 4,5,6 **Pathway Standards** HL-DIA 1 ST-SM 2,4	**ELA** 11-12R 1,4,7 11-12W 1,2,4,5 11-12SL 1,2,3,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science**

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	employment opportunities?	• Complete an internship, mentorship, or shadowing experience with at least one professional in the field of their choice. • Identify and investigate potential career options through college visits and field trips to local businesses. • Participate in mock interviews to prepare for college admissions and job interviews.			
Week 21 **Central Nervous System: Electrophysiology and Neurons**	• What are the major structures and functions of the nervous system? • How does the structure of a neuron relate to its function? • How do different types of neurons work together to coordinate bodily functions? • What role do passive and active transport play in the function of a neuron? • What are the steps of an action potential? • What is a synapse and how are chemicals used to transmit messages at the synapse? • What can occur as a result of neuronal malfunctions?	• Describe the structural and functional subdivisions of the nervous system including sensory/afferent, motor/efferent, interneurons, somatic, visceral/autonomic, central, and peripheral nervous systems. • Identify the key structural features of the neuron and describe their specific functions. • Describe the differences in anatomy, location, and function of unipolar, multipolar, and bipolar neurons. • Describe the anatomy of synapses including the structure and roles of the pre- and post-synaptic cells. • Describe the structure, function, and location of neuroglial cells of both central and peripheral nervous systems. • Review the key roles of transmembrane channel and carrier proteins in determining and maintaining transmembrane potential, as well as rapid changes in the resting membrane potential (action potentials). • Compare and contrast graded versus action potentials and where and how these changes in transmembrane potentials occur on neurons. • Describe the various phases of the action potential (including the relative and absolute refractory periods) and associated key structural components of the neuron that contribute to the changes in membrane potential for each phase. • Define and differentiate between depolarization and hyperpolarization, as related to membrane potential and the types of ions channels and ion diffusions that contribute to these potential changes. • Describe the structural and functional differences between continuous and salutatory propagation of action potentials. • Distinguish between Type A, B, and C	• Lab Reports • Practice Worksheets • Discussions • Graphic Organizer • Simulations • Case Study Analysis • Quiz	**Career Ready Practices** 1,2,4,7,8,11 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**ELA** 11-12R 1,4,7 11-12W 1,2,4 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2 HS-LS1-3

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
		neuron fibers both structurally and functionally based on the type of sensory or motor information transmitted by each. • Describe the key roles of neurotransmitters at the synapse and be able to provide examples of excitatory and inhibitory neurotransmitters. • Describe the key components and events involved in transmission of action potentials across a cholinergic synapse. • Explain the difference between excitatory and inhibitory post-synaptic potentials (EPSPs and IPSPs) and how temporal and spatial summation, relate to these concepts and information processing. • Identify various disorders caused by neuronal malfunctions. • Describe the causes, symptoms and treatments of specific neuronal disorders as presented through case studies.			
Week 22 **Central Nervous System: Spinal Cord and Reflexes**	• How does the structure of the spinal cord affect its function? • How are different types of neurons used to bring messages to and from the spinal cord? • What is a reflex and how do they work? • How are different types of neural circuit pathways used to facilitate electrical communication in the body?	• Identify and describe the key structural and functional attributes of the spinal cord including cross sectional anatomy, spinal nerves and nerve plexuses, spinal nerve roots, and the spinal meninges. • Describe the general organization of the gray and white matter of the spinal cord including sensory and motor nuclei, ascending and descending columns and tracts, and commissures. • Describe the key anatomy and function of sensory and motor pathways to and from the spinal cord using spinal nerves including both somatic and visceral modalities. • Compare and contrast the structural and functional differences between somatic, visceral, motor, and sensory neurons. • Explain the physiology and clinical relevance of sensory dermatomes. • Discuss and differentiate between the following types of reflexes: innate and acquired, monosynaptic and polysynaptic, somatic, and visceral, spinal, and cranial. • Describe the components and events involved in the reflex arc including stretch, withdrawal, and crossed-extensor reflexes. • Describe the following neural circuit pathways: divergence, convergence, reverberation, serial and parallel processing.	• Lab Reports • 3-D Models • Practice Worksheets • Graphic Organizer • Simulations • Case Study Analysis • Quiz	**Career Ready Practices** 1,2,4,7,8,11 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**ELA** 11-12R 1,4,7 11-12W 1,2,4,5 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-3

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
		• Identify the possible causes and effects of ineffective reflexes as presented through case studies.			
Week 23: **Central Nervous System: The Brain**	• What are the locations and functions of the major regions of the brain? • What is CSF and how does it contribute to the function of the nervous system? • What is the blood-brain barrier and why is it important? • How does the limbic system help regulate emotions and learning? • How are basal nuclei used to relay information to and from other parts of the brain? • What are consequences of miscommunication in the body? • How do scientists determine which areas of the brain are associated with specific actions, emotions, or functions? • How are cranial nerves used to control specific regions in the body?	• Identify and describe the key structural and functional features of medulla oblongata, pons, thalamus and hypothalamus, mesencephalon, cerebellum, and cerebrum. • Identify and describe the locations of the cranial meninges and their functions for the brain and CNS. • Identify and describe the development and function of all the ventricles of the brain and the associated structures that play a role in the formation, circulation, and reabsorption of cerebrospinal fluid (CSF). • Describe the key functions of cerebrospinal fluid and how the Blood – CSF barrier is maintained. • Describe the key structural components of the Blood Brain Barrier and the associated physiological implications of these specialized capillaries in the brain. • Explain the roles of the limbic system and describe key portions of the brain involved in this system along with their specific functions in emotions and learning. • Describe the components and key functions of the basal nuclei in the cerebrum. • Describe the key structural and functional features of the cerebral cortex including the concepts of hemispheric lateralization and disconnection syndrome. • Identify and describe the functions of the various nerve fiber tracts in the cerebral white matter. • Identify and describe functions and locations of the primary motor and sensory cortices, cortical association, and integrative areas (including Wernicke's and Broca's areas and the premotor cortex). • Describe the anatomical and physiological concepts of the cortical homunculus in terms of both sensory and motor functions. • Describe how electroencephalograms are generated and the various types of brain waves observed. • Describe the physiology of seizures and explain the concept and implications of	• Lab Reports • Practice Worksheets • Discussions • Models • Case Study Analysis • Unit Test	**Career Ready Practices** 1,2,4,7,8,11 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**ELA** 11-12R 1,4,7 11-12W 1,2,4,5 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
		epilepsy. • Identify the cranial nerves on pictures or models of the brain and be able to describe key sensory and/or motor functions of these nerves. • Describe the causes, symptoms, and treatments of at least two brain disorders as presented through case studies.			
Weeks 24-25 **Peripheral Nervous System: Sensory Pathways - Somatic Nervous System**	• What role does the thalamus serve in processing neuronal information? • How are different types of receptors used for sensory input? • What is the difference between somatic and visceral sensory information? • How does the nervous system control skeletal muscle movement? • What structures are used to maintain balance and motor control?	• Describe the role of the thalamus in transmission and sorting of sensory information along with the related concepts of 1st, 2nd, and 3rd order neurons in the processing of somatic sensory information. • Explain the concepts of sensory receptor specificity, receptive fields, and transduction of sensory information in the form of graded and action potentials along neurons. • Compare and contrast nociceptors, thermoreceptors, chemoreceptors, and mechanoreceptors. • Distinguish between somatic and visceral sensory information. • Identify and describe sensory information carried by the posterior column and spinothalamic pathways, along with the concepts of 2nd order neurons and decussation of the information to the cortex. • Identify and describe how motor information to skeletal muscle is initiated and directed through upper and lower motor neurons through the motor cortex, pyramids, and corticospinal tracts. • Describe the roles of the basal nuclei, cerebellum, and vestibulospinal tracts in sensory perception and associated motor control. • Analyze a research paper investigating the somatic nervous system and state its hypothesis, summarize the data, and discuss the researcher's conclusion. • Recommend modifications or further follow up studies to a currently published research article.	• Lab Reports • Practice Worksheets • Discussions • Student Created Diagrams • Models • Research Article Summary/Analysis • Quiz	**Career Ready Practices** 1,2,4,7,8,11,12 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**ELA** 11-12R 1,4 11-12W 1,2,4,5 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-3
Week 26 **Peripheral Nervous System: Autonomic**	• How are ganglionic neurons used to facilitate electrical communication in the sympathetic and	• Identify and describe the location and function of pre- and post-ganglionic neurons in the sympathetic and parasympathetic nervous systems.	• Lab Reports • Practice Worksheets • Discussions • Models	**Career Ready Practices** 1,2,4,7,8,11	**ELA** 11-12R 1,4,7 11-12W 1,2,4,5 11-12SL 1,4 11-12L 1,2,3,6

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
Nervous System	parasympathetic nervous systems? • What are visceral motor nuclei and how are they used in the nervous system? • How do the structure and function differ between the sympathetic and parasympathetic nervous systems? • How is the nervous system used to maintain regulatory cycles within the human body?	• Explain the concepts of visceral motor nuclei in both divisions of the autonomic nervous system and compare/contrast their anatomical locations. • Describe the key structural components and functions of the sympathetic nervous system. • Identify and describe the functions of the three types of ganglia in the sympathetic nervous system including sympathetic chain, collateral, and suprarenal medullae. • List and describe functions for the alpha and beta receptors of the sympathetic nervous system. • Describe the key structural components and functions of the parasympathetic nervous system. • Identify and describe the functions of the terminal and intramural ganglia in the parasympathetic nervous system. • Describe the concepts and associated components involved in autonomic tone, sleeping, and memory. • Analyze a research paper investigating the somatic nervous system and state its hypothesis, summarize the data, and discuss the researcher's conclusion. • Recommend modifications or further follow up studies to a currently published research article.	• Simulations • Research Paper Summary/Analysis • Quiz	**Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-3
Week 27 **Endocrine System**	• What is a hormone? • How do hormones interact with target cells? • What are examples of endocrine glands and exocrine glands in the human body? • How do feedback loops help regulate the action of hormones? • How can too little or too much of a hormone lead to disease?	• Identify the major endocrine organs on models and/or diagrams. • Describe the primary means of intercellular communication in the body. • Describe the various locations and functions of hormone receptors in target organs and tissues. • Differentiate between lipid-soluble and water-soluble hormones in terms of transport, receptor location and mechanism of action. • Describe typical endocrine reflexes and feedback loops. • Explain the regulatory role of the hypothalamus in the endocrine system, including the hormones it produces and their effects. • For each of the following endocrine organs,	• Lab Reports • Practice Worksheets • Discussions • Simulations • Case Study Summary • Unit Test	**Career Ready Practices** 1,2,4,7,8,11 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**ELA** 11-12R 1,4,7 11-12W 1,2,4 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2 HS-LS1-3

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
		list the primary hormones produced: pituitary gland, pineal gland, thyroid gland, parathyroid glands, adrenal glands, pancreas. • Identify organs that have secondary endocrine functions and list the hormones they produce. • Describe the structure of key hormones, the means of transport, the mechanism of action at target organs/tissues, and the reason for its release/production. • Describe the stages of the general adaptation syndrome (stress response). • Diagnose an endocrine system disorder and explain the cause of this disorder. • Recommend a treatment plan for a specific endocrine system disorder using current medical research.			
Week 28 **Cardiovascular System: Blood**	• How does the structure of blood affect its function? • Why is the shape of a RBC critical for proper function? • What can occur if a RBC does not have the correct shape? • How is blood type determined? • What is a platelet and why are they important? • How does the body prevent blood loss after an injury? • What types of cells are found in blood and what are the functions of each?	• Describe the composition of blood and differentiate between formed elements and plasma. • Identify the key functions and physical characteristics of blood and the components of blood. • Describe the structure of RBCs and explain why RBC structure is optimal for its function. • Describe the basic process of erythropoiesis, the significance of the reticulocyte, and the effect of erythropoietin in the regulation of erythropoiesis. • Discuss the structure and function of hemoglobin. • Describe how specific RBC components are recycled. • Explain the basis for ABO blood types and the Rh factor system and discuss the importance of blood typing in blood transfusions. • Distinguish among the different types of white blood cell types in terms of structure, function, and origin. • Describe the structure, function, and production of platelets. • Describe the specific events that take place in each phase of hemostasis. • Describe the events involved in the formation of a fibrin clot and differentiate between the	• Lab Reports • Practice Worksheets • Discussions • Models • Simulations • Case Study Analysis • Quiz	**Career Ready Practices** 1,2,4,7,8,11,12 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**ELA** 11-12R 1,4,7 11-12W 1,2,4 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
		extrinsic, intrinsic, and common pathway. • Explain how positive feedback loops promote coagulation. • Describe the process of fibrinolysis and explain why it is necessary. • Identify blood disorders in a given case study. • Diagnose sickle cell anemia and describe its causes and appropriate treatment using current medical research.			
Week 29 **Cardiovascular System: The Heart**	• How does the structure of the heart contribute to its function? • What role do coronary arteries serve in terms of heart function? • What role do valves serve in the heart? • How do the structure and functions of the different chambers of the heart differ? • How do medical professionals analyze heart function? • How do the nervous system, muscular system and circulatory system work together to ensure blood moves continuously through the body?	• Identify the unique structural features of cardiac muscle cells/tissue and describe the associated functions of these features (intercalated discs, myoglobin, etc.) • Identify key gross anatomical features of the superficial heart including the great vessels, various sulci, and the major vessels of the coronary circulation. • Identify the names and associated functions of the three layers of the heart wall. • Identify other major anatomical components of the heart wall and explain their functional significance, including the layers of the pericardium, trabeculae carnae, chordae tendineae, and papillary muscles. • Identify landmark anatomical features of all four chambers of the heart and explain why each of the chambers look and function uniquely. • Trace the flow of blood through the pulmonary and systemic circuits of the body while listing the key vessels, chambers, and valves encountered through both circuits. • Describe the valve names and compare/contrast the anatomical and physiological differences in the operation of the atrioventricular versus the semilunar valves. • Describe the key components of the cardiac conduction system and how each functions to initiate and regulate excitation and contraction of the various chambers of the heart. • Explain how the electrocardiogram (EKG) illustrates electrical activity of the cardiac conduction system and be able to attribute each part of the EKG tracing to conduction system components.	• Lab Reports • 3-D Models • Practice Worksheets • Graphic Organizer • Simulations • Case Study Summary • Unit Test	**Career Ready Practices** 1,2,4,7,8,11,12 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**ELA** 11-12R 1,4,7 11-12W 1,2,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
		• Explain the key pressure and volume changes associated with the cardiac cycle and attribute these changes to flow of blood and opening/closing of valves. • Explain various ways in which stroke volume and heart rate are regulated to adjust cardiac output to match level of activity. • Diagnose a heart attack using EKG images. • Recommend treatment plans for heart attack victims based on current medical research.			
Weeks 30-31 **Cardiovascular System: Blood Vessels and Regulation**	• What is the difference between pulmonary and systemic circulation? • What is the difference in structure and function between veins and arteries? • What role do veins, arteries, and capillaries serve in the circulatory system? • How is blood pressure maintained in the human body?	• Identify and list the structural differences between arteries, arterioles, capillaries, venules, and veins and describe how these differences explain their unique functional or physiological attributes. • Explain how blood flow, volume, and pressure are adjusted in the blood vessels, including how vasoconstriction and venoconstriction are controlled and their effects on these key variables. • Trace the flow of blood from the heart through major blood vessels and back to the heart and describe mechanisms that assist venous return of this blood as pressures decrease through the circuit. • Explain the pressures that drive capillary filtration and reabsorption, along with the function of lymphatic vessels in maintaining blood volume and preventing edema. • Explain the key cardiovascular reflexes operated neurally by the baroreceptors and chemoreceptors and hormonally by several important hormones. • Identify and describe the key anatomical features of the blood supply to various organs including the heart, lungs, liver, and brain, as well as the unique vessels and features of the fetal circulation. • Identify the major arteries and veins in both human and cat specimens. • Diagnose a patient with hypertension and explain the causes, and appropriate treatment using current medical research.	• Lab Reports • Practice Worksheets • Discussions • Detailed Scientific Drawings • Models • Simulations • Case Study Summary • Unit Test	**Career Ready Practices** 1,2,4,7,8,11,12 **Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**ELA** 11-12R 1,4,7 11-12W 1,2,4 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-3
Week 32 **Immune System**	• What body systems function to protect the human body? • How does the structure of	• Describe both the components and major functions of the lymphatic system. • Describe the distribution and structure of lymphatic vessels and explain how lymph is	• Lab Reports • Practice Worksheets • Discussions • Models	**Career Ready Practices** 1,2,4,7,8,11,12	**ELA** 11-12R 1,4 11-12W 1,2,4 11-12SL 1,4 11-12L 1,2,3,6

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	the lymphatic system relate to its function? • What is an antigen? • What is an antibody? • How do circulating antibodies protect a person from receiving incompatible blood during a transfusion? • What is specific immunity? • What role do lymphocytes play in specific immunity? • How does the body react the second time it is exposed to a particular antigen?	transported. • Explain the basic structure, cellular populations, and function of lymphoid tissue (Lymph nodes). • Describe the structure and function of key lymphoid organs including the spleen and thymus. • Explain the importance of Mucosa-Associated Lymphoid Tissue including the tonsils and Peyer's patches. • Compare and contrast the key elements between the innate and adaptive immune defenses. • Describe the basic components and functions of the innate immune system including surface barriers, cells, and chemical defenses. • Describe the basic components and functions of the adaptive immune system including cell-mediated immunity and antibody-mediated immunity. • Explain what an antigen is and how it affects the adaptive response. • Identify the basic structure of an antibody monomer and name and describe the functions of the five classes of antibodies. • Explain T and B cell development and activation. • Explain humoral immunity including clonal selection of B cells. • List the various types of T cells, how they become activated and how they contribute to the cellular immune response. • Explain the basis of immunological memory and how it relates to vaccination. • Diagnose and describe appropriate treatment plans for patients with autoimmune disorders through the use of case studies.	• Student Drawings • Simulations • Case Study Analysis • Quiz	**Cluster Standards** HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	**Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2
Week 33-34 **Digestive System**	• What are the functions of the digestive system? • How does the structure of each organ in the digestive system relate to its function? • How does the digestive	• Describe the classes of nutrients required by the body. • Define the two types of digestive processes: mechanical and chemical. • Explain what is meant by absorption. • Identify the organs of the digestive system and describe their major functions.	• Lab Reports • Practice Worksheets • Discussions • Models • Simulations • Case Study Analysis • Quiz	**Career Ready Practices** 1,2,4,7,8,11,12 **Cluster Standards** HL 1 ST 2,6	**ELA** 11-12R 1,4,7 11-12W 1,2,4 11-12SL 1,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	system assist in maintaining the water balance in the body? • How do enzymes assist the process of digestion?	• Describe the histology of the digestive tract. • Describe the mechanisms that regulate digestion. • Explain muscular movements in the intestinal tract: peristalsis; segmentation • Describe the anatomy of the oral cavity and pharynx and explain their digestive functions. List the salivary glands and their secretions. Name the permanent teeth and explain the human dental formula. • Describe the anatomy and function of the esophagus. • Describe the anatomy and histology of the stomach. • Discuss digestive and absorptive processes in the stomach. • Explain the nervous and hormonal control mechanisms of gastric activity. • Describe the anatomy and histological organization of the small intestine. • Explain the functions of intestinal secretions and their regulation. • Describe the anatomy and functions of the accessory organs. • Explain nervous and hormonal controls acting on the small intestine. • Describe the absorptive processes of nutrients in the small intestine. • Describe the anatomy and histology of the large intestine. • Discuss the digestive and absorptive processes of the large intestine. • Explain the importance of the gut microbiome in digestion. • Describe the events of the defecation reflex. • Explain the current understanding of the “gut microbiome” and its importance to the digestive processes and influence on the physiology of other organ systems. • Diagnose and provide treatment plans for digestive system disorders through the use of case studies.		**Pathway Standards** HL DIA 1 ST-SM 2,4	**Science** HS-LS1-2
Week 35 **Reproductive System**	• What are the functions of the male reproductive system? • What role does testosterone play in	• Identify and describe the major organs, glands, and tissues of the male reproductive system. • Describe the major components of semen, including their functions and the glands	• Lab Reports • Practice Worksheets • Discussions • Simulations • Case Study Summary	**Career Ready Practices** 1,2,4,7,8,11,12 **Cluster Standards**	**ELA** 11-12R 1,4,7 11-12W 1,2,4 11-12SL 1,4 11-12L 1,2,3,6 **Literacy**

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	development and sexual reproduction? • What is the function of sperm? • How is sperm transferred to the female body during sexual reproduction? • What are the structures in the female reproductive system? • How does the structure of the female reproductive system allow for fertilization and development of a baby? • What role do hormones play in the female menstrual cycle? • How does the female menstrual cycle prepare the female body for pregnancy? • What role do feedback cycles play in menstrual cycle?	producing them. • Identify the key components of a spermatozoan and describe their functions. • Explain the processes of spermatogenesis, including meiosis and spermiogenesis, along with the cells (including nurse, interstitial, spermatogonia, and spermatocytes) and associated hormones and locations. • Describe the major targets and effects of the reproductive hormones including GnRH, FSH, LH, and testosterone. • Identify and describe the major organs, glands, and tissues of the female reproductive system. • Explain the processes of oogenesis, including meiosis and follicle development, along with the cells (including follicular, oogonia, and oocytes) and associated hormones and locations. • Describe the key events, cells, organs, and hormones involved in the ovarian cycle, including the follicular phase, ovulation, and luteal phases. • Describe the key events, cells, organs, and hormones involved in the uterine cycle, including the menses, proliferative, and secretory phases. • Identify the anatomy and histology of the uterine wall including perimetrium, myometrium, and endometrium. • Explain the significance of the hormonal coordination of the uterine and ovarian cycles and its role in the success of oocyte fertilization and implantation. • Explain menopause and its implications. • Describe the role of reproductive therapy through the use of case studies. • Defend an opinion on the use of reproductive therapy techniques using specific evidence to support the claim.	• Student Debates • Unit Test	HL 1 ST 2,6 **Pathway Standards** HL DIA 1 ST-SM 2,4	RST 1,2,4,7,8,9 WHST 2,4,5,6,7 **Science** HS-LS1-2
Weeks 36-40 **Professional Certifications**	• What is the difference between a lay responder and a professional rescuer? • What is the Good Samaritan law and how does it provide legal	• Describe the Good Samaritan laws and the level of protection they provide to a lay rescuer • Define the “duty to act” and give examples of scenarios where this duty applies • Describe the process of obtaining consent to treat and explain when implied consent	• Portfolio • Peer Assessment • Supervisor Formal Evaluations • Practical Exams • Simulations • Students	**Career Ready Practices** 1,2,4,5,7,8,10,11,12 **Cluster Standards** HL 2,5 ST 2,6	**ELA** 11-12R 1,4,7 11-12W 1,2,4 11-12SL 1,2,3,4 11-12L 1,2,3,6 **Literacy** RST 1,2,4,7,8,9 WHST 2,4,5,6,7

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	protection to lay responders? • What is a professional rescuer and why do they have a duty to act? • What are the legal concerns of treating a patient during a medical emergency? • What is the proper way to obtain consent to treat a victim? • What types of interventions can be done in specific medical emergencies? • What is the correct procedure to treat someone who is choking, not breathing or has no signs of life? • What is a phlebotomist? • What are the legal issues related to phlebotomy? • What are standard precautions and why should they always be used? • What are the different types of blood draws performed by phlebotomists? Why would each one be used? • What documentation is required during blood draws and specimen collection?	applies to a victim • Discuss the legal issues related to treating a victim both as a lay responder and a professional rescuer. • Demonstrate the ability to assess a victim and provide appropriate interventions • Give examples of when to use rescue breathing or CPR • Perform rescue breathing to infant, child, and adult victims • Perform correct CPR techniques at the professional rescuer level on an infant, child, and adult victim. • Demonstrate how to aid both a consciously choking and unconsciously choking victim. • List the duties of a phlebotomist. • Define legal issues related to phlebotomy. • Describe the universal precautions as outlined by the CDC. • Describe the venous anatomy and veins and skin surfaces on which phlebotomy can be performed. • Differentiate between serum and plasma. • Identify factors to be considered in venipuncture or skin puncture site selection. • List the equipment and supplies needed to collect blood by venipuncture and skin puncture. • Describe 6 patient factors which influence the ability to perform venipuncture successfully. • Discuss 6 complications associated with blood collection. • Describe the steps in accurate specimen collection and documentation procedures. • Demonstrate a successful venipuncture on manikin arm.	Demonstrations • Discussions • Student Reflections • Peer Review	**Pathway Standards** HL-DIA 1,2,3,4,5 ST-SM 1,2,4	**Science**

Return to TOC

Syracuse City School District
Career and Technical Education Program
Course Syllabus
CLT 400: Clinical Lab Technology 400

Program Overview

Students enrolled in the Clinical Lab Technology program will acquire the knowledge and technical skills that will prepare them either for positions as entry level laboratory assistants or for advanced placement in post-secondary education. Students will gain practical learning experience through scientific investigations and experiments, as well as the collection and testing of samples, writing reports, and presenting information in a state-of-the-art, high-tech laboratory setting. As a career link, established partnerships with many local businesses and medical facilities provide students with internships and potential future employment opportunities. In addition, students have the opportunity to earn a Career and Technical Endorsement on their diploma by successfully passing an industry-standard technical assessment.

Course Description

This course gives students training and experience in the practice of phlebotomy including the use of blood collection equipment and the practice of standard safety precautions Students will learn the procedures of routine venipuncture and skin puncture, as well as the proper documentation, handling, and transportation of specimens. Students will investigate the ethical, legal, and regulatory issues surrounding venipuncture and will consider the preanalytical complications, hazards, and complications of blood drawing. Specialized procedures and types of collections will be addressed. Students will prepare for employment by writing resumes and cover letters and participating in practice interviews.

Pre-Requisites

CLT 100: Clinical Lab Technology 100
CLT 200: Clinical Lab Technology 200
CLT 300: Clinical Lab Technology 300

Course Objectives

By the end of the Clinical Lab Technology 400 course students will:

1. Describe the best practices for interaction with patient, patient advocates, and other healthcare staff.
2. Perform a successful venipuncture and dermal puncture, including correct order of draw and safety measures.
3. Differentiate supplies and procedures for all patient types, including newborns through geriatric adults.
4. Identify common additives used in blood collection, explain their reasons for use, and correlate the tube color with the additive and associated tests.
5. Name and explain frequent causes of phlebotomy complications and discuss the problems caused by breaking sterile and antiseptic techniques.
6. Participate in hands-on activities and create products to demonstrate the knowledge and skills of a clinical laboratory technician.
7. Understand the career application of clinical laboratory technology information through participation in field experiences.
8. Demonstrate skill in processing self-knowledge in relation to the clinical laboratory technology course and program, the world of work, and future planning.

Integrated Academics

1 Integrated CTE English Credit

Equipment and Supplies

- **School will provide:** All textbooks and laboratory supplies
- **Student will provide:** Closed toed shoes for laboratory setting, externship professional attire, and a three-ring binder

Textbook

TBD

Grading

Grades will be calculated as follows:

30% Projects/Labs/Presentations/Papers
30% Class work/Homework/Energizers
20% Tests/Quizzes
20% Class Participation (attendance, cooperation, classroom discussion, preparation)

Additional Course Policies

- Attendance is critical for program success. A large percentage of students' grades are based on attendance. Students who attend all class meetings are more likely to accomplish the course successfully.
- A daily grade is awarded on attendance, attitude, professionalism, and participation.
- If students are absent from class they will lose participation points for that day.
- If it is an unexcused absence, students will not be able to receive any participation points for that day.
- If students are absent, any missed work will be placed in the student's mailbox to be completed. It is the student's responsibility to check for missing assignments.
- Assignments are to be turned in **ON TIME**. **Assignments turned in late will lose 5 points per day and will not be accepted if they are longer than 3 days overdue.**
- Cells phones are not allowed in the laboratory or classroom. They need to be turned off.
- Use of cell phone will result in lost participation points and possible confiscation of the student's phone. Calls and texts can be made before or after class, or during break.
- Professional behavior is expected at all times.

****SUNY Broome Standards for Academic Progress**

This class carries college credit from SUNY Broome and adheres to the overall college policy on Standards for Academic Progress. Students must achieve a **"C"** (74.0) which is necessary to complete the appropriate degree. **"C-"** or lower in **ONE** CLT course/lab is considered a failing grade and course must be repeated

Course Calendar

Quarter	Units of Study
1	• Introduction to Classroom Practices • Safety and Infection Control Review • Professionalism and Communication for the Phlebotomist • Cardiovascular System
2	• Ethical, Legal, and Regulatory Issues Surrounding Venipuncture • Documentation, Specimen Handling, and Transportation • Preanalytical Complications, Hazards, and Complications of Blood Drawing • Preparing for Blood Collection
3	• The Venipuncture Procedure • Capillary Blood Specimen Collection
4	• Pediatric and Geriatric Procedures • Special Collections • Obtaining the Job • Practical Assessments • Review for Final Exam

Syracuse City School District
Career and Technical Education Program
Scope and Sequence Year 4
CLT 400: Clinical Lab Technology 400

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
Week 1 **Introduction to Classroom Practices**	• What are the classroom procedures for CLT? • What are the rules for classroom safety? • How will Blackboard be used this year? • What advice can a senior in a P-Tech program give first year students?	• Review, explain and follow classroom procedures. • Discuss general classroom and lab safety. • Participate in online discussions and use a grading rubric. • Develop a "Letter for Success" for incoming freshmen.	• General Safety Quiz • Compliance of Classroom Procedures • "Letters for Success"	**Career Ready Practices** CRP 2,6,7,10,11	**ELA** 11-12R 1,2,4 11-12W 2,4 11-12SL 1 11-12L 1,2,3
				Cluster Standards HL 3,4,5 ST 3,6	**Literacy** RST 1,2,4 WHST 2,4,5,6,7
				Pathway Standards ST-SM 4	**Science**
Weeks 2-3 **Safety and Infection Control Review**	• Why must laboratory safety rules be observed? • What are some common laboratory hazards? • What are Standard Precautions? • What is a bloodborne pathogen? • What is OSHA? • What is Right-to-Know? • Why is Hazard Communication important? • What PPE should be worn in the lab? • How is handwashing done using aseptic technique? • How are contaminated gloves removed properly? • What is the proper way to safely dispose of needles and contaminated materials in the laboratory? • What are the components of the infectious cycle? • How are patient areas disinfected? • What steps should be taken during a lab spill accident?	• List safety regulations that pertain to the clinical lab. • Give examples of physical and chemical hazards in the lab. • Explain Standard Precautions. • Explain OSHA's Bloodborne Pathogen policy. • Demonstrate proper handwashing techniques. • Choose the proper PPE and observe Standard Precautions while in the laboratory setting. • Explain and demonstrate of proper hand washing and glove removal. • Demonstrate proper disposal of sharps and non-sharp medical waste. • List the components of the infectious cycle. • Prepare and use a 10% bleach solution to disinfect patient areas. • Demonstrate the use of the eyewash and emergency shower in the laboratory.	• Safety Video Rubric • Chapter Activity Worksheet	**Career Ready Practices** CRP 1,2,8,12	**ELA** 11-12R 1,4 11-12W 2,4 11-12L 1,2,3,6
				Cluster Standards HL 3,4,5 ST 3,6	**Literacy** RST 1,2,4,7 WHST 2,4,7
				Pathway Standards HL-DIA 5 ST-SM 2	**Science**

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
Weeks 4-6 **Professionalism and Communication for the Phlebotomist**	• Why are communication skills so important in phlebotomy? • What is the right way to communicate with patients to acquire information? • What if the patient does not speak English? • How does the phlebotomist deal with family members?	• List professional competencies for phlebotomists and performance assessments. • Demonstrate skills for effective communication and active listening. • Demonstrate examples of positive and negative body language. • Describe quality assessment as it relates to phlebotomy.	• Case Studies • Brainstorming Activity: The Patient Encounter • Competency Checklists • Practice Exercises/Role Play • Lego Communication Activity • Telephone Message Activity • Unit Quiz	**Career Ready Practices** CRP 1,2,3,4,7,9,12	**ELA** 11-12R 1,4 11-12W 2,4 11-12SL 1,3,4 11-12L 1,2,3,6
				Cluster Standards HL. 1,2,4	**Literacy** RST 1,2,4,7 WHST 2,4,6,7
				Pathway Standards HL-DIA. 1,2,4,5 ST-SM 4	**Science** HS-LS1-3
Weeks 7-10 **Cardiovascular System**	• How does blood circulate through the body? • Why does the heart make a lub-dub sound? • What is the blood composed of? • Which vein is used for venipuncture?	• Label the structures of the heart. • Construct a diagram of the pathway of blood through the heart. • Differentiate the anatomy and function between arteries, veins, and capillaries. • List the major components of blood. • Locate the veins most commonly used for phlebotomy.	• Structure of the Heart Quiz • Diagram of the Pathway of the Blood Through the Heart • Blood Vessel Quiz • Pulse and Blood Pressure Lab • WBC Foldable and Rubric • Leukocyte Labeling Activity • Student Performance with Vein Identification • Circulatory Unit Test	**Career Ready Practices** CRP 2,3,4,6,7,8,11	**ELA** 11-12R 1,4 11-12W 2,4 11-12L 1,2,3,6
				Cluster Standards HL 1	**Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 5 ST-SM 2	**Science** HS-LS1-2 HS-LS1-3
Weeks 11-12 **Ethical, Legal, and Regulatory Issues Surrounding Venipuncture**	• What if a patient refuses to have their blood drawn? • Who gives permission for blood collection from a child? • How can consent be obtained if the patient does not speak English? • What is the Patient Bill of Rights? • What are some common lawsuits surrounding phlebotomy procedures? • What is malpractice and how can it be avoided?	• Discuss the legal and physical risks an employee might encounter while performing a venipuncture. • Explain health care laws and their importance to health care providers. • Define informed consent and implied consent. • Describe the Patient Bill of Rights. • Identify key components of HIPAA. • Identify methods to maintain confidentiality of privileged information on patients. • Explain how a phlebotomist could be the object of litigation. • Describe how to avoid blood collection lawsuits.	• Case Studies • Role Play • Unit Quiz	**Career Ready Practices** CRP 1,4,5,9,12	**ELA** 11-12R 1,4 11-12W 2,4 11-12SL 1,3,4 11-12L 1,2,3,6
				Cluster Standards HL 2,4,5,6	**Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7
				Pathway Standards ST-SM 2	**Science**
Weeks 13-14 **Documentation, Specimen Handling, and Transportation**	• What information needs to be completed on a laboratory requisition? • Where is specimen collection information	• Describe essential elements of a laboratory requisition form. • Design a laboratory requisition. • List the basic specimen-handling guidelines for maintaining specimen	• Rejection Criteria Assessment • Student Performance Objective: Specimen Preparation and	**Career Ready Practices** CRP 7,8,11	**ELA** 11-12R 1,4 11-12W 2,4 11-12SL 4 11-12L 1,2,3,6
				Cluster Standards	**Literacy**

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	found? • What specimens are centrifuged and which are not? • What is hemolysis and what causes it? • What does it mean when the lab rejects a specimen for testing? • How can specimen rejection be prevented?	integrity. • Name sources of error that can occur during specimen processing or storage. • List reasons for specimen rejection.	Transport • Laboratory Requisition Design • Written Assessment	HL 1,2,3 **Pathway Standards** HL-DIA 1,2,5 ST-SM 1,2,4	RST 1,4,5,6,7 WHST 2,4,5,6,7 **Science** HS-LS1-2 HS-LS1-3
Weeks 15-17 **Preanalytical Complications, Hazards, and Complications of Blood Drawing**	• What should be done if the patient starts to faint while blood is being drawn? • Should a patient pump their fist during a venipuncture? • What if the bleeding doesn't stop after blood collection is finished? • What happens when the area around the puncture sites starts to swell? • What is the difference between antiseptic or. sterile techniques? • What happens if a specimen cannot be collected on a patient?	• Describe preanalytical complications related to blood collection procedures that affect patient safety. • Explain how to prevent and/or handle complications in blood collection. • List preanalytical complications that arise with test requests and requisitions. • Identify how the preanalytical factors of syncope, petechiae, hemolysis, and IVs affect blood collection. • Describe methods used to prevent these interferences. • List factors about a patient's physical disposition that can affect blood collection. • Describe how mastectomy, edema, and thrombosis can affect blood collection. • List complications associated with tourniquet pressure and fist pumping. • List complications that lead to specimen rejection. • Differentiate sterile and antiseptic techniques. • Explain the steps to take if blood cannot be obtained from a patient.	• Case Studies • Competency Assessments • Laboratory Requisition Case Studies • Review Questions • Unit Test	**Career Ready Practices** CRP 7,8 **Cluster Standards** HL 3 **Pathway Standards** HL-DIA. 1,2,5 ST-SM 4	**ELA** 11-12R 1,4 11-12W 2,4 11-12SL 4 11-12L 1,2,3,6 **Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7 **Science** HS-LS1-3
Weeks 18-20 **Preparing for Blood Collection**	• What equipment is needed to perform a venipuncture? • What do the different color tubes mean? • What are the various types of anticoagulants? • What information must be on the tube and the patient requisition? • How is a venipuncture performed? • How is a tourniquet	• Describe the latest phlebotomy safety supplies and equipment. • Identify the various supplies that should be carried on a specimen collection tray. • List the various types of evacuated blood tubes and their anticoagulants and their reason for use. • Describe the difference between the venipuncture and skin puncture equipment and supplies. • Complete a laboratory requisition. • Interpret testing needed from laboratory	• Venipuncture Equipment Identification Chart • Order of Draw Relay Races • Order of Draw/Anticoagulant Poster Project • Order of Draw/Anticoagulant Skill • Tourniquet Application • Role Play: Patient Identification	**Career Ready Practices** CRP 1,2,4,6,7,8,11,12 **Cluster Standards** HL 1,2,3,4 ST 3,6 **Pathway Standards** HL-DIA 1,2,4,5 ST-SM 2,3,4	**ELA** 11-12R 1,4 11-12W 2,4 11-12SL 1,3,4 11-12L 1,2,3,6 **Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7 **Science** HS-LS1-3

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	applied? • What vein is used for drawing blood? • Why are tubes drawn in a certain order? • How should the specimen be handled to protect the specimen integrity? • What are the steps in patient care should occur post-phlebotomy?	requisition. • Label a blood tube with correct documentation. • Demonstrate patient identification prior to venipuncture. • Correctly apply and release a tourniquet. • Demonstrate the “order of draw”. • Name safety precautions to be followed during a venipuncture. • Describe the post-phlebotomy steps in patient care.	• Quiz: Tubes and Anticoagulants • Case Studies • Unit Test		
Weeks 21-25 **The Venipuncture Procedure**	• How is an outpatient vs. an inpatient identified? • Do technicians have to wash their hands between patients if they are wearing gloves? • What do concentric circles in the decontamination process mean? • What is hemoconcentration? • What is the procedure to ensure that the vein will not move when the needle is inserted? • What angle is used to insert a needle into a vein? • What is the procedure if the vein is missed? • How are tubes changed during a multiple draw venipuncture?	• Describe the proper manner for greeting and interacting with a patient. • Describe the major points in identifying the patient. • Describe and discuss techniques for dealing with family and visitors during blood collection. • Demonstrate the use of venipuncture supplies for a typical venipuncture. • Describe when hand hygiene and gloving procedures are used. • Describe the detailed steps of a venipuncture procedure. • Palpate the most appropriate sites for venipuncture. • Apply a tourniquet to a patient’s arm and explain its effects on the venipuncture process. • Demonstrate the decontamination process for venipuncture. • Demonstrate how to properly anchor a vein for venipuncture. • Demonstrate proper needle insertion and withdrawal techniques including direction, angle, depth, and aspiration. • Explain the detailed procedure for a venipuncture using the syringe and butterfly method. • Describe the factors that can affect the quality of the blood specimen obtained. • Describe the importance of timed, fasting, and STAT specimens. • Perform a competent/effective venipuncture on a mannequin and on a patient.	• Worksheets and Diagrams • Quizzes • Teacher Observations Student/Patient Interactions • Rubric for Patient Identification and Introduction • Case Studies • Competency Assessments • Student Performance Objective for Vein Palpation and Identification • Student Performance Objective for Vacuum Tube Method for Venipuncture • Student Performance Objective for Syringe Method for Venipuncture • Student Performance Objective for Butterfly Method for Venipuncture • Written Assessment • Job Shadowing	**Career Ready Practices** CRP 1,2,4,6,7,8,11,12 **Cluster Standards** HL 1,2,3,4 ST 3,6 **Pathway Standards** HL-DIA 1,2,4,5 ST-SM 2,3,4	**ELA** 11-12R 1,4 11-12W 2,4 11-12SL 1,3,4 11-12L 1,2,3,6 **Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7 **Science** HS-LS1-3
Weeks 26-29	• When is a capillary	• Describe reasons for acquiring capillary	• Teacher Observations	**Career Ready Practices**	**ELA**

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
Capillary Blood Specimen Collection	puncture vs. a venipuncture performed? • Why is the order of draw different for capillary puncture? • What are the puncture sites for adults vs. infants? • What happens if the incision goes too deep with a capillary puncture?	blood specimens. • Identify the proper sites for performing a skin puncture. • List the types of equipment needed to collect blood by capillary puncture. • List the steps necessary to perform a capillary puncture. • List the effects of heating pads on capillary punctures. • Describe techniques used to obtain a free-flowing capillary puncture specimen. • Describe the correct procedure for capillary collection methods on infants and adults. • Explain reasons for controlling the depth of the incision site. • Perform a competent/effective capillary puncture on a mannequin and on a patient.	• Worksheets • Case Studies • Student Performance Objective: Fingerstick Procedure • Student Performance Objective: Heel Stick Procedure • Job Shadowing	CRP 1,2,4,6,7,8,11,12	11-12R 1,4 11-12W 2,4 11-12SL 1,3,4 11-12L 1,2,3,6
				Cluster Standards HL 1,2,3,4 ST 3,6	**Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1,2,4,5 ST-SM 2,3,4	**Science** HS-LS1-2
Weeks 30-31 **Pediatric and Geriatric Procedures**	• Why should bandages not be applied to pediatric patients? • How is a pediatric patient gently restrained for venipuncture? • What are some ways to deal with a patient with Alzheimer's disease in relation to blood collection?	• Describe fears or concerns that children might have regarding the blood collection process. • List suggestions for parents during the venipuncture or capillary procedure. • Describe the venipuncture sites for infants and children. • Describe the procedure for specimen collection for neonatal screening. • Define physical and emotional changes that are associated with the aging process. • Describe how the healthcare worker should react to physical and emotional changes associated with the elderly.	• Cases Studies • Quiz • Competency Checks	**Career Ready Practices** CRP 1,2,4,8,12	**ELA** 11-12R 1,4 11-12W 2,4 11-12L 1,2,3,6
				Cluster Standards HL 1,2,3	**Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1,2,3,4,5 ST-SM 4	**Science** HS-LS1-3
Weeks 32-33 **Special Collections**	• Why would a doctor order a blood culture? • What is a therapeutic drug? • What is Point of Care (POC) testing? • What is the difference between a glucose test and a glucose tolerance test? • What is the difference between urine specimen collections and why is that	• List the steps and equipment used in blood culture collection. • Identify reasons for collecting a blood culture. • Describe the special precautions needed to collect a TDM (Therapeutic Drug Monitoring). • Describe the most widely used applications of POC testing. • Communicate the requirements for glucose testing and glucose tolerance testing. • List three types of specimen collections	• Patient Instructions for a Fasting Glucose and a Glucose Tolerance Test • Patient Instructions for a 24-Hour Urine Test • Competency Checklist • Written Assessment	**Career Ready Practices** CRP 2,4,8	**ELA** 11-12R 1,4 11-12W 2,4 11-12SL 4 11-12L 1,2,3,6
				Cluster Standards HL 3,4	**Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1,2,4,5 ST-SM 4	**Science** HS-LS1-2 HS-LS1-3

Time Frame Unit of Study	Key Questions	Key Learning Targets (Students will know and be able to)	Assessment Evidence of Learning	CCTC Standards	NYS Standards
	important?	and differentiate the uses of the urine specimens obtained from these collections. • Communicate the directions of urine collection to a patient.			
Weeks 34-36 **Obtaining the Job**	• How do I identify potential employers? • What are my needs for employment? • What should my resume include? • Why is a cover letter included with a resume and what should it say? • How do I fill out an application? • How do I prepare for an interview? • What type of questions will I be asked on an interview? • How should I follow up after an interview?	• Identify employment conditions that meet individual needs. • List potential employers in individual area of interest. • Prepare a working resume. • Prepare a cover letter. • Complete an employment application. • Participate in practice interviews. • Prepare a thank you letter to an employer.	• Job Search Worksheets • Student Created Working Resume with Rubric Assessment • Cover Letter with Rubric Assessment • Completed Application for Employment • Practice Interviews with Written Feedback from Interviewees • Prepared Thank You Letter to Employer with Rubric Assessment	**Career Ready Practices** CRP 1,4,10	**ELA** 11-12R 1,4 11-12W 2,4 11-12L 1,2,3,6
				Cluster Standards HL 2,4	**Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1	**Science**
Weeks 37-39 **Practical Assessments**	• Have I met the goal to be able to perform a venipuncture collection on a patient? • Have I met the goal to be able to perform a capillary puncture on a patient?	• Perform a competent/effective venipuncture on a patient. • Perform a competent/effective capillary puncture on a patient.	• Practical and Competency Assessments	**Career Ready Practices** CRP 2,4,7,8	**ELA** 11-12R 1,4 11-12W 2 11-12L 1,2,3,6
				Cluster Standards HL 1 3	**Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 1,2,4,5 ST-SM 2,3,4	**Science** HS-LS1-2 HS-LS1-3
Week 40 **Review for Final Exam**	• What were my learning goals this year in laboratory technology?	• Complete the assessment demonstrating a thorough knowledge of laboratory technology.	• Final Assessment	**Career Ready Practices** CRP 7,8,10,12	**ELA** 11-12R 1,4 11-12W 2,4 11-12L 1,2,3,6
				Cluster Standards HL 1	**Literacy** RST 1,4,5,6,7 WHST 2,4,5,6,7
				Pathway Standards HL-DIA 5 ST-SM 2,4	**Science** HS-LS1-2 HS-LS1-3

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B. Teacher Certification

> *The self-study team reviews the teacher certification and training of the school or BOCES' instructional, paraprofessional, and support staff who deliver services within the CTE program seeking approval. New York State teacher certification review should include both CTE teachers and teachers of academic content within the proposed program.*

Process

- Reviewers confirm that all CTE teachers hold appropriate New York State teacher certification for the program in which they will teach.
- Reviewers confirm that all teachers of academic content hold appropriate New York State teacher certification for the program in which they will teach.
- Reviewers confirm the appropriate NCLB highly-qualified status for the CTE teachers in programs offering academic credit.
- Reviewers confirm that staff delivering instruction in programs where certification, licensure, or registration by an external entity have acquired the necessary credentials.
- Reviewers confirm that professional development opportunities exist within the school district or BOCES for instructional, paraprofessional, and support staff to acquire and improve skills and knowledge related to instructional enhancement of the CTE program.

Documentation

Recommendations from the review of teacher certification should be included in the self-study report and reviewed by the external committee. A list of all teachers for the program and the New York State teacher certification(s) held by each must be attached to the Application for Career and Technical Education Program Approval.

Resources

New York State Office of Teaching Initiatives
http://www.highered.nysed.gov/tcert/certificate/certprocess.htm

Source: http://www.p12.nysed.gov/cte/ctepolicy/guide.html

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Search Certificate Holder

First Name: Janet

Last Name: Clark

Middle Initial:

Submit

Search Results

Select	First Name	Last Name	MI	City	State	Registration Status
○	JANET	CLARK	C	BLOOMFIELD	NY	N/A
◉	JANET	CLARK	L	WEEDSPORT	NY	Registered
○	JANET	CLARK	F	MIDDLETOWN	NY	N/A

View Detail

Certificate Information for New York State Teaching Certificate Holder

Certificate Title	Issue / Effective Date	Expiration Date	Status
Medical Laboratory Assisting Provisional Certificate	09/01/2000	08/31/2007	Expired
Biology 7-12 Provisional Certificate	09/01/2002	08/31/2007	Expired
Medical Laboratory Technology 7-12 Initial Certificate	09/01/2008	08/31/2013	Expired
Medical Laboratory Technology 7-12 Professional Certificate	02/01/2012		Issued

C. Technical Assessments Based on Industry Standards

> *The self-study team reviews the selection of a technical assessment for the program seeking approval. The selected technical assessment must be nationally-recognized and based on industry standards. It must be available to students enrolled in the approved program and must consist of three parts: written, student demonstration, and student project. Successful completion of the technical assessment is not a requirement for high school graduation, but is required for a student to earn a technical endorsement on the high school diploma*
>
> *The New York State Education Department does not approve, endorse, or certify any technical assessment.*

Process

- The school district or BOCES selects an appropriate industry standard technical assessment to measure student proficiency in the technical field for the program. The school district or BOCES may select a New York State licensing examination as the technical assessment.
- The school district or BOCES determines the scheduling and administration of technical assessments. It is not required that the technical assessment be administered at the conclusion of the program. Parts may be administered throughout a student's learning experience.
- The school district or BOCES determines the number of times a student may take a particular technical assessment.
- The school district or BOCES must comply with existing laws and regulations related to administration of technical assessments to students with disabling conditions and provide appropriate testing modifications. Restrictions on student eligibility for testing are the responsibility of the test producer.
- In the absence of an appropriate nationally-recognized industry standard based assessment, a consortium of local, regional, state, business and industry representatives may be formed to produce such an instrument.
    - Technical assessments must meet generally recognized psychometric criteria. Therefore, the consortium approach may be expensive because of the many steps required to insure assessment validity, reliability, and security.
    - An existing CTE advisory committee or craft committee is not a technical assessment consortium. The school district or BOCES must ensure that the assessment consortium adequately represents current business and industry standards for the specific career area for the program.
- Where an appropriate technical assessment exists, but consists of only one or two parts, a consortium must be formed to develop the missing part(s).
- The school district or BOCES must develop a system to collect student-level and program-level data on performance on the technical assessment.

Documentation

Recommendations on the technical assessment selection should be included in the self-study report and reviewed by the external committee.

Resources

New York State graduation requirements: http://www.emsc.nysed.gov/part100/pages/1005.html

Information on the Technical Endorsement: http://www.emsc.nysed.gov/cte/ctepolicy/endorsement.html

Source: http://www.p12.nysed.gov/cte/ctepolicy/guide.html

The SCSD P-TECH Clinical Lab Technology program is being developed through Precision Exams. More information about Precision Exams can be found here:

http://www.precisionexams.com/newyork/index.html

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SCSD CTE Student Portfolio

Definition: Student portfolios are a collection of personal documents, which showcase an individual's learning experiences, goals and achievements. Student portfolios are created and controlled by the student, facilitated by the instructor, and evaluated by outside entities.

Purpose: Students should be able to leave a program with as many tools in their toolbox as possible. Student portfolios are a way to assist students in marketing themselves in future interviews, by using the portfolio to illustrate his or her skills and/or talents.

SCSD CTE Student Portfolio Requirements

☐	**Table of Contents:**	This should list each section and piece of the portfolio in the order it appears
☐	**Cover letter**	A cover letter introducing the student to a potential employer about a specific job in his or her chosen pathway. Should focus on why the student is the best candidate for the job. It should compliment the resume, not repeat it.
☐	**Resume**	Should be professionally formatted. Usually a one-page document listing the student's name, personal information (address, phone, and email), an objective, work history or extracurricular/community involvement, education, certifications/credentials, personal skills/interests, and references.
☐	**Letters of Recommendation**	Students must include at least two (2) reference letters, provided by people outside the school who are familiar with his or her work or character. The reference letters can be employment-related, personal, or they can attest to the character of the student.
☐	**Certifications/Credentials**	Students should include copies of any credentials and/or certifications they have earned as a result of their program.
☐	**Transcript**	Student provides a copy of his or her full academic transcript.
☐	**Employability Profile**	Per NYSED: The work skills employability profile is intended to document student attainment of technical knowledge and work-related skills. Documents to validate skills reported on the profile could include, but are not limited to, an employer/teacher review of student work based on learning standards and expectations in the workplace, performance evaluations and observations. Students must have at least one employability profile completed within one year prior to school exit. If a student is involved in a number of work-based learning experiences and/or is employed part time, he/she may also have additional employability profiles as completed by others knowledgeable about his or her skills (e.g.,

	employer and/or job coach).
☐ **College Research**	A written research assignment focusing on three colleges offering programs in the student's chosen career pathway.
☐ **Career Plan**	Per NYSED: "Career Plans are an important mechanism to add relevance and meaning to learning experiences across subject areas. The career development model used to create the Career Plan aligns with the CDOS standards." A Career Plan document can be found here: http://www.p12.nysed.gov/cte/careerplan/docs/SecondaryCommencLvl.pdf
☐ **Student Awards**	This section is completely open ended. Students should use this section to illustrate any awards, projects, exemplars, service learning, or scholarships, they participated or earned during their high school years. They can show evidence through pictures, project documentation, news articles, program agendas, meeting minutes, videos, etc.
☐ **Work Samples**	Examples highlighting ***only the student's best work***, demonstrating the skills and competencies he or she has mastered. These should be presented professionally and be clearly captioned. ***Should not be thought as a scrapbook.*** Potential employers are only interested in the very best examples.

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D. Postsecondary Articulation

> *The self-study team reviews the postsecondary articulation agreement for the program seeking approval. Postsecondary articulation agreements help students prepare for the transition from high school to advanced study in a particular career area. Articulation agreements provide direct benefits to students such as dual credits, college credits, advanced standing, or reduced tuition at a postsecondary institution. Articulation agreements may include several school districts and/or BOCES and multiple postsecondary institutions. The school district or BOCES may enter into multiple articulation agreements for a program seeking approval.*

Process

- Reviewers confirm that the postsecondary articulation agreement is designed to prepare students for the transition from high school study to postsecondary study in the career area of the program seeking approval.
- Reviewers confirm that a postsecondary articulation agreement has been obtained that offers direct benefits to students in the program seeking approval.
- Reviewers confirm that the postsecondary articulation agreement includes the
    - prerequisite skills, knowledge, or coursework required of students to participate in the agreement
    - roles and responsibilities of each institution
    - duration of the agreement
    - endorsement by officials of each institution
- Signed articulation agreements must be on file within the school district or BOCES.

Documentation

Documentation of the postsecondary articulation agreement is maintained by the school district or BOCES and updated whenever modifications are made. Recommendations on the technical assessment selection should be included in the self-study report and reviewed by the external committee. A copy of the signed postsecondary articulation agreement must be attached to the Application for Career and Technical Education Program Approval.

Source: http://www.p12.nysed.gov/cte/ctepolicy/guide.html

MEMORANDUM OF AGREEMENT
between and among
Syracuse City School District
and
SUNY Broome Community College

Parties to the Agreement:
This memorandum of agreement expresses the terms under which **SUNY Broome Community College** (hereinafter referred to as SUNY Broome), P.O. Box 1017, Binghamton, New York 13902, will provide contracted services to the **Syracuse City School District** (hereinafter referred to as the District) in relation to the Pathways in Technology Early College High School Health Careers Academy (hereinafter referred to as P-TECH HCA) program at Henninger High School from September 1, 2015 to June 30, 2022.

Overview:
P-TECH HCA will offer a six-year integrated high school and college curriculum for grades 9-14 that focuses on heath careers pathways and the acquisition of essential workplace skills. P-TECH HCA students will graduate with a NYS Regents Diploma/Regents Diploma with Advanced Designation and a Technical Endorsement, a no-cost-to-student Associate in Applied Science degree in Clinical Laboratory Technician from SUNY Broome Community College or in Health Information Technology/Medical Records from Onondaga Community College, and the skills and knowledge required of well paying, high demand jobs in health care careers. It is the intent of the parties to facilitate preferential hiring for entry-level positions at partnering area businesses.

Term of Agreement:
This Agreement shall commence on September 1, 2015 and terminate on June 30, 2022 pending P-TECH Funding if not previously terminated pursuant to the paragraphs below:

Termination:
This Agreement shall terminate automatically, with no further action required by any of the parties, in the event that P-TECH funding is discontinued by the New York State Education Department.

Either party may terminate this Agreement without cause by giving the other party sixty (60) days prior written notice of such termination, and

Either party may terminate this Agreement immediately upon reasonable cause and notice to the other party.

Description of Services

SUNY Broome Community College commits to the following:

- To appoint one member, and an alternate if needed, of their administrative team to serve on the P-TECH Partnership Council, and a faculty member and/or administrator liaison, and an alternate if needed, to serve on the P-TECH HCA Advisory Council and to participate in sub-committees as deemed necessary by the Partnership Council and as agreed upon by the IHE partners;
- To designate a College Liaison who has the authority to coordinate with District and P-TECH staff on the college's behalf to ensure achievement of program-related goals and objectives and proper implementation of designed strategies and activities;

- To collaborate with the District and business partners in designing a scope and sequence that is seamlessly aligned with the A.A.S. degree program at SUNY Broome Community College in Clinical Laboratory Technician. The scope and sequence will ensure the development of technical skills and workplace competencies while students earn an A.A.S. degree within six years of entering the Syracuse P-TECH HCA Program. For the Clinical Laboratory Technician program, students will complete general education requirements through Onondaga Community College and Clinical Laboratory Technician courses and clinical placements through SUNY Broome Community College's online platform (Open SUNY);
- To design, implement and support voice overs for existing on-line Clinical Laboratory Technician courses to enable at-risk students to adapt more readily to advanced content;
- To work closely with District and P-TECH staff to determine which college credit-bearing courses will be taught by college faculty, which by high school teachers with approval, and which by a combination of the two;
- To ensure the appropriate college-level rigor of courses taught by adjunct faculty in accordance with the respective college's faculty contracts;
- To participate in common planning and curriculum alignment and development of college rigor and expectations, to work collaboratively with partners to correlate P-TECH classes with the college's schedule, and to contribute to the development of a personalized learning environment and student academic, social and emotional support services;
- To collaborate with high school faculty to ensure that course content will prepare students for college work;
- To collaborate with business partners to align college coursework with relevant technical skills and workplace competencies;
- To facilitate meetings with P-TECH faculty/staff that will promote understanding of any new or existing policies and procedures on how the colleges operate in terms of credits, registration, course availability, space, curriculum and the integration of curriculum with the District;
- To provide opportunities for college faculty and administrators to participate in P-TECH events such as retreats, open houses and ceremonies, as well as program-related joint professional development activities or to develop and conduct professional development activities for P-TECH staff as deemed necessary;
- To work cooperatively with District faculty to develop innovative approaches for early identification and intervention and provide support services for P-TECH students including, but not limited to, academic tutoring, mentoring, career development, counseling, scholarship assistance, and admissions assistance;
- To make available to P-TECH students access to all appropriate campus extracurricular activities and support services as afforded to matriculated students;
- To assist in the development of a plan that fosters a distinct college-going culture and provides students and parents access to college facilities, resources and services;
- To track and report data to the District on student achievement in order to assess progress toward program goals and objectives, and to comply with all NYS P-TECH reporting requirements, with the District to maintain responsibility for such reporting to NYS;
- To comply with the Family Educational Rights and Privacy Act, the Protection of Pupil Rights Amendment, and the regulations issued thereunder;
- To expand existing articulation agreements, based on current college guidelines, for the purpose

of creating, increasing, and/or enhancing concurrent enrollment courses at Syracuse P-TECH HCA and course offerings at Onondaga Community College and at SUNY Broome Community College, and to include the seamless articulation of college credits, which will be issued by Onondaga Community College and SUNY Broome Community College and accepted towards the relevant A.A.S. degree;

- To maintain student advisement resources and credit transfer policies that protect the pathway to degree completion for participating students;
- To oversee and coordinate the registration process for all college courses;
- To negotiate with the District during the planning year to identify program revenue streams, expenses, and opportunities to leverage resources in order to develop a cost-effective model that may enable partners to potentially waive or reduce tuition costs per credit to no more than existing "college-in-the-high-school" rates (P-TECH students will not be eligible for TAP or PELL);
- To work with the District and business partners to discuss strategies to achieve program sustainability by identifying potential leveraged resources; and
- To participate in a statewide network of NYS P-TECH schools and share pertinent resources, tools, strategies, expertise and experience on the development of the P-TECH model.

The Syracuse City School District commits to the following:

- To serve as the implementation and fiscal lead partner, thereby coordinating and overseeing the planning and implementation of the NYS P-TECH grant as well as the monitoring of all fiscal and budgetary activities in relation to the grant;
- To fully implement the NYS P-TECH model, serving all students enrolled in the P-TECH HCA in the same location (on the Henninger High School campus) beginning in 9th grade to assure that all students have a consistent, innovative program and college and career culture and all faculty have the opportunity to collaborate and focus on NYS P-TECH instructional and support services;
- To provide district-level leadership (Executive Director for High Schools and the Director for CTE), oversight and guidance, including the facilitation of Partnership Council and Advisory Council meetings;
- To provide a principal with the documented ability to drive exceptional student outcomes and who will work closely with the P-TECH/WBL Coordinator to oversee the successful implementation of the P-TECH Health Careers Academy;
- To provide a P-TECH/WBL Coordinator who will facilitate and oversee the integration of high school, college and work-based learning experiences, and serve as liaison between business, education and community partnerships;
- To provide well-trained and experienced teachers that have the appropriate background to deliver college-level courses and the ability to provide accelerated instruction to at-risk students; and support staff that will effectively deliver social and emotional support services to target students;
- To recruit at-risk and other under-represented students for enrollment in P-TECH HCA;
- To work collaboratively with college and business partners in joint professional development, curriculum alignment and design of a seamless scope and sequence of courses that enables all

students to earn an A.A.S. degree within six years and that includes workplace learning;

- To establish a college-going culture for all students that begins on the first day of 9th grade and continues throughout all six years of the program, engaging students in instruction on key "college knowledge", academic and personal behaviors such as time management; collaboration; problem-solving; leadership; study skills; communication; and tenacity. Credit-bearing college course work will be introduced no later than the 10th grade;
- To introduce the career and industry focus for all students beginning on the first day of 9th grade and continuing throughout the six years of the program by infusing workplace skills and industry content into academic courses and offering time in the school schedule and calendar for the full range of workplace learning, e.g. mentoring, workplace visits, job shadowing, internships; etc.;
- To offer multiple pathways for students with varying levels of academic achievement in 8th grade to participate and complete the full six year program successfully;
- To prepare students for college-level coursework so remedial coursework at the post-secondary level is not necessary;
- To implement and monitor the aligned curriculum and P-TECH courses;
- To collect and report relevant student and program data to NYSED;
- To maximize available funding streams, such as federal School Improvement Grants and Perkins program funding, to support the needs of participating students;
- To ensure compliance of all parties to the regulations of the grant and take corrective actions if non-compliance occurs; and
- To participate in a statewide network of NYS P-TECH schools and share pertinent resources, tools, strategies, expertise and experience on the development of the P-TECH model.

Independent Contractors:
Individuals provided by SUNY Broome shall be and remain employees of SUNY Broome. As such, SUNY Broome employees shall not be considered employees of the District and shall not be eligible for workers' compensation, disability benefits, unemployment insurance, health insurance, retirement benefits and other benefits provided to District employees.

Insurance:
SUNY Broome shall be responsible for maintaining insurance coverage that is reasonably necessary to cover potential claims arising out of the performance of SUNY Broome's obligations under this Agreement. Upon request, SUNY Broome shall provide the District with proof of such coverage.

Indemnification:
SUNY Broome agrees to indemnify and hold harmless the District from any and all losses, damages or liability arising solely out of negligence or other malfeasance or nonfeasance by SUNY Broome, its employees, agents and servants, upon or in relation to the fulfillment of its responsibilities and obligations under this Agreement, including but not limited to, the provision of services. Regardless of the nature of the claim, SUNY Broome further agrees that if any claim or demand is asserted against it which reasonably may be expected to result in liability to the District that SUNY Broome shall give prompt notice thereof in writing to the District and shall cooperate in the investigation of the claim or demand and any defenses arising therefrom.

The District agrees to indemnify and hold harmless SUNY Broome from any and all losses, damages or liability arising solely out of negligence or other malfeasance or nonfeasance by the District, its employees, agents and servants, upon or in relation to this Agreement or otherwise which results in loss to SUNY Broome, including, but not limited to, the payment for services under this Agreement. Regardless of the nature of the claim, the District further agrees that if any claim or demand is asserted against it which reasonably may be expected to result in liability to SUNY Broome that the District shall give prompt notice thereof in writing to SUNY Broome and shall cooperate in the investigation of the claim or demand and any defenses arising therefrom.

Compliance with Law:
SUNY Broome will adhere to all applicable certifications regarding lobbying, debarment, suspension and other responsibility matters, and drug-free work-place requirements.

SUNY Broome will comply with all applicable requirements regarding the confidentiality of student records, including the Family Educational Rights and Privacy Act, HIPAA and regulations of the United States and New York State Education Departments.

SUNY Broome will adhere to all applicable requirements set forth in Attachment I.

Section 2-d of the New York State Education Law requires that a parents' bill of rights for data privacy and security must be included with every contract an educational agency enters into with a third party contractor, where the third party contractor receives student data or teach or principal data. Accordingly, this Agreement is deemed to incorporate by reference the District's parents' bill of rights for data privacy and security. SUNY Broome agrees to comply with all applicable provisions of Section 2-d of the Education law, any rules and regulations of the New York State Education Department issued thereunder, and the District's parents' bill of rights for data privacy and security, including any amendments to any of these.

Syracuse City School District Parents' Bill of Rights for Data Privacy and Security

- The Syracuse City School District does not sell or release a student's personally identifiable information for any commercial purposes;
- Parents have the right to inspect and review the complete contents of their child's education record;
- State and federal laws protect the confidentiality of personally identifiable information, and safeguards associated with industry standards and best practices, including but not limited to, encryption, firewalls, and password protection, must be in place when data is stored or transferred.

Dispute Resolution:
It is mutually agreed that should a dispute arise, all parties will informally attempt to resolve such dispute or utilize mediation.

Notices:
Any notices by either party shall be in writing and hand-delivered to the offices below or sent by registered or certified mail to the respective addresses as shown below or such other address as a party may designate by written notice in accordance with this provision. Notices shall be effective upon receipt. Facsimile shall not be considered effective delivery of notice.

Sharon L. Contreras, Ph.D., Superintendent of Schools
Syracuse City School District
725 Harrison Street
Syracuse, New York 13210

Kevin E. Drumm, Ph.D., President
SUNY Broome Community College
P.O. Box 1017
Binghamton, New York 13902

Severability:
If any provision of this Agreement is invalid, illegal or incapable of being enforced, by reason of any rule of law, administrative order, judicial decision or public policy, all other provisions of this Agreement shall remain in full force and effect. No covenant or provision shall be deemed dependent upon any other covenant or provision unless so expressed herein.

Subsequent Modification:
No modification made after execution of this Agreement shall be enforceable unless it is in writing and signed by all parties to this Agreement.

Merger Clause:
This Agreement contains the entire agreement of the parties, and no representations, inducements, promises or agreements, oral or otherwise, not appearing herein shall be of any force or effect.

Payment for Services
The Syracuse City School District agrees to pay SUNY Broome Community College a total of **$25,000.** These payments will be made as follows: $7,500 upon execution of this Agreement; $7,500 by May 15, 2016; $5,000 by October 15, 2016; and $5,000 by May 15, 2017. Payment contingent upon receipt of applicable invoices and quarterly progress reports, and satisfactory fulfillment of all responsibilities detailed herein. Should grant funds *not be awarded* this Agreement is no longer valid. Should grants funds be reduced both parties agree to revise this Agreement and contracted services to align with funding allocation.

APPROVED BY:
Syracuse City School District

Sharon L Contreras 12/28/15
Signature, Sharon L. Contreras, Ph.D. **Date**

Superintendent of Schools
Title

Linda D. Mulvey 12/22/15
Signature, Linda Mulvey **Date**

Chief Academic Officer
Title

APPROVED BY:
SUNY Broome Community College

12/7/15
Signature, Kevin E. Drumm, Ph.D. **Date**

President
Title

Attachment I
SCSD MOA/Subaward Agreement

By signing the MOA/Subaward Agreement, the authorized official of the collaborating agency or organization certifies, to the best of his/her knowledge and belief, that:

Certification Regarding Lobbying

No Federal appropriated funds have been paid or will be paid, by or on behalf of the collaborator, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee or a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Debarment, Suspension and Other Responsibility Matters

Collaborator certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

OMB Circular A-133 Assurance & Reporting

Collaborator assures the Syracuse City School District that it complies with OMB-Circular A-133, or applicable audit standards related to collaborator organization, and that it will notify the District of completion of required audits and of any adverse findings, which impact this MOA/Subaward. The Collaborator will adhere to any awarding agency requirements and regulations pertaining to reporting and will provide the SCSD with requested information in a timely manner, should such request be made.

Remedies for Breach, Sanctions, Penalties

Should collaborator breach any provisions of this agreement, the District may temporarily withhold payments pending correction of the deficiency; disallow all or part of the cost of the activity not in compliance; wholly or partly suspend or terminate the current agreement with the collaborator; withhold further contracts/agreements with collaborator; or, take other legal remedies which may be available to the District.

Compliance with Federal Statutes and Executive Orders

Collaborator certifies that it complies with the following:
Compliance with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60).
Compliance with Copeland "Anti-Kickback" Act (18 U.S.C 874) as supplemented in Department of Labor regulations (29 CFR part 5).
Compliance with the wage rate requirements (40 U.S.C. 3141-3148) as supplemented by Department of Labor regulations (29 CFR part 5).
Compliance with the Contract Work Hours and Safety Standards (40 U.S.C. 3701-3708) as supplemented by Department of Labor regulations (29 CFR part 5).
Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act as amended (42 U.S.C. 7606), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part15).
Compliance with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act as amended (42 U.S.C. 6321-6326)

Copyrights and Patent Rights

The Federal Awarding Agency, where applicable, reserves a royalty-free, non-exclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government purposes the copyright in any work developed under a grant, subgrant or contract under a grant or subgrant and any rights of copyright to which a grantee, subgrantee or a contractor purchases ownership with grant support. Collaborator will adhere to any awarding agency requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under this agreement.

Records Accessories

The Collaborator agrees to provide access by the SCSD, the grantor agency, the Comptroller General of the United Sates, or any of their duly authorized representatives to any books, documents, papers and records of the collaborator which are directly pertinent to this specific agreement for the purpose of making audit, examination, excerpts and transcriptions.

Records Retention

The Collaborator agrees to retain all records in relation to this agreement for five (5) years after the project period had ended and all other pending matters are closed.

Return to TOC

E. Work-based Learning

> *Work-based learning (WBL) is the "umbrella" term used to identify activities which collaboratively engage employers and schools in providing structured learning experiences for students. These experiences focus on assisting students to develop broad, transferable skills for postsecondary education and the workplace. A quality WBL experience can make school-based learning more relevant by providing students with the opportunity to apply knowledge and skills learned in the classroom to real world situations.*
>
> *Time requirements that students in an approved program may devote to work-based learning experiences are set by administrators of the approved program. This time should be an outcome of the self-study report and external review phases of the approval process. Work-based learning experiences must be sufficient in length and rigor to contribute to student achievement of the State learning standards as well as specific technical competencies.*

Process

- The school district/BOCES and the employer cooperatively plan all work experiences.
- The school district/BOCES set up a formal procedure for the supervision/coordination of all work-based learning experiences and must ensure that work-based learning coordinators are appropriately certified.
- The school district/BOCES provide work-based learning experiences for students with disabilities
- The school district/BOCES and employer must ensure compliance with federal and state labor laws, and the State Department of Labor regulations and guidelines.
- The school district/BOCES must explore and develop work-based learning experiences in settings that are relevant to the program.
- The school district/BOCES must comply with Commissioner's Regulations and Department policy where credit towards graduation is being awarded.

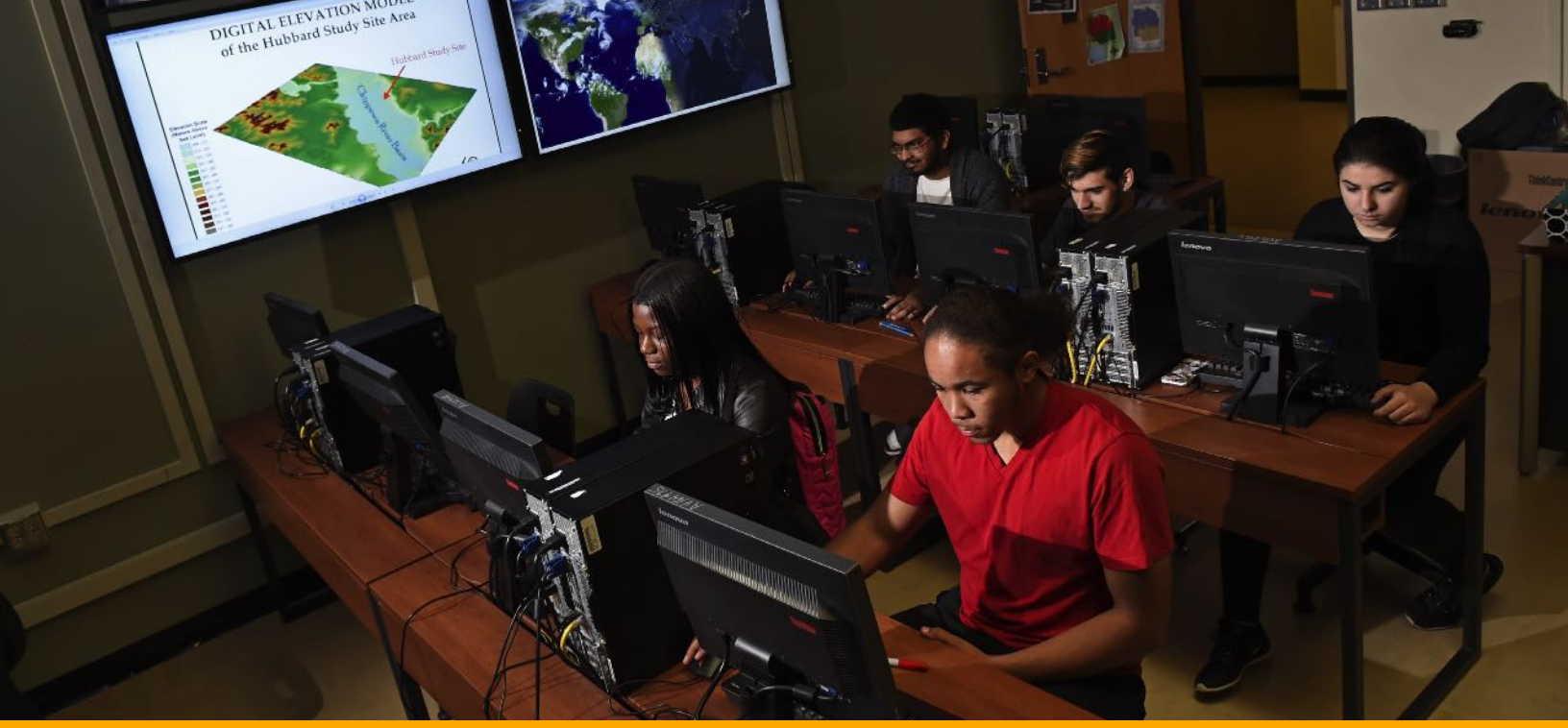
Documentation

Recommendations for work-based learning should be included in the self-study report and reviewed by the external committee.

Resources

New York State Education Department Work Experience Manual
http://www.emsc.nysed.gov/cte/wbl/

Source: http://www.p12.nysed.gov/cte/ctepolicy/guide.html



SYRACUSE CITY SCHOOL DISTRICT

Career and Technical Education

CTE

Internship Handbook

Preparing today's students for tomorrow's careers.

Table of Contents

Syracuse City School District

Career and Technical Education Internship

Forms are available on SCSD CTE website www.syracusecityschools.com/cte

Introduction

Syracuse City School District Career and Technical Education Work Based Learning

Learning in the workplace is not a new concept. Informal, on-the-job training is an integral part of all workforce development. Work based learning (WBL) provides structured learning experiences for students through exposure to a range of occupations. The Harvard University report, Pathways to Prosperity (February, 2011) suggested that "Work-linked learning should play an especially important role in the new American system of pathways to prosperity. There is mounting evidence that this would be an effective strategy for encouraging young adults to complete both high school and post-secondary degrees. Co-operative education is a tested model that provides students with extensive work experience that is monitored by the school."

Learning in the workplace is connected to and supports learning in the classroom. Work based learning also helps students achieve established academic standards. Properly developed and supported, work based learning provides a practical context for school subject matter and enhances the traditional classroom learning. Work based learning activities promote the development of broad, transferable skills and are a key element of a rigorous and relevant education for students. It enables students to acquire the attitudes, skills and knowledge needed to succeed in today's workplace.

Employer partners can develop and support work based learning experiences that promote the attainment of workplace knowledge and skills. In doing so, they can support academic achievement and personal growth by designing, structuring, supporting and connecting work based learning experiences. Work based learning also supports professional, technical, and work-readiness skills development. Quality work based learning should:

- Be designed to enhance the learning of skills and workplace knowledge in all aspects of the industry
- Be structured to be safe, legal and measurable
- Be developmentally appropriate
- Have identified learning objectives and assess student performance
- Develop career ready practices and provide opportunities for reflection
- Be supported and documented by appropriate planning and training; and
- Comply with State and Federal labor laws

Syracuse City School District Career and Technical Education Internship

A Career and Technical Education Internship provides an important link between the classroom and the workplace for students age 16 and older. It is a structured, time-limited, career preparation activity in which students are assigned to a workplace for a defined period of time to participate in and observe firsthand within a given industry. The internship enhances and adds relevance to classroom learning. The internship may provide the opportunity to work in teams, rotate through a number of departments and job functions, or work on a project of interest to the student. It is essentially a partnership that links school, community, and business/industry to provide a real-world environment in which students are given the opportunity to apply, and thereby enhance, the knowledge and skills obtained in the classroom. The internship is related to the student's CTE program of study, with the primary goals of promoting:

- The exploration of and experience in a field of interest
- Exposure to a wide range of careers and jobs within an industry
- Opportunities to develop, practice and demonstrate new skills
- The acquisition of occupational knowledge and awareness of the skills and education needed to be successful in the industry

Career & Technical Program/ Teacher Guidelines

Legal Requirements of SCSD CTE Internship Program

All Career and Technical Education Internship Programs have the common objective of providing opportunities for students to develop and demonstrate job skills at a supervised worksite. They are supported by training plans developed cooperatively by the employer, instructor, and student. There should be ongoing communication between the job mentors and the CTE teacher or work based learning coordinator concerning students' performance and needs.

Each internship program needs to have the following:

- New York State Education Department (NYSED) approval of the CTE program
- The employer understands that the student placement is governed by NYSED, New York State Workers' Compensation Board (NYSWCB), New York State Department of Labor (NYSDOL), and United States Department of Labor (USDOL) labor laws and regulations
- Employer is provided a Certificate of Insurance from school where school liability insurance protects the employer from any damage student may do in the workplace
- Students are given written notification that this program is unpaid and they are not due any wages per NYSDOL regulations
- Per NYS, students are required to receive coverage under the employer's Workers' Compensation Insurance if student is interning for a for-profit company. If student is interning at a non-profit entity, the student is required to be covered by the employer's visitors or volunteer insurance.
- Worksite must be in compliance with Occupational Safety and Health Administration (OSHA) regulations. Health and safety instruction/training appropriate for the job is provided by the SCSD and employer specific training is provided by the employer on the worksite.
- Memorandum of Agreement is in effect between the cooperating business and the education agency and outlines the responsibilities of the student, employer, parent/guardian, and school/coordinator, all of whom must sign to confirm their support of the agreement.
- Students complete an Internship Application indicating their understanding of, and agreement to, all rules and regulations of the program.
- Students receive instruction embedded within their CTE curriculum relating to the technical and career ready practices.
- An Internship Training Plan (ITP) is developed and used for each participating student. The plan identifies the general and specific job tasks the student will perform on the job, the desired learning outcomes of the experience, and the time frame the student will spend at each task. The training plan should be designed to ensure that the student will have a progressive learning experience.
- All participating students are meeting, or have met, academic requirements of their CTE programs and academic subjects. No students on academic probation will participate in the internship.
- Employment Certificate (Working Papers) for students provide verification that a student under age 18 is eligible for employment. The student, employer, and school must complete the form. Employment certificates are obtained at the high school – typically the main office, health office, or guidance office.
- Time Log/Record of Attendance provides an official record of the weekly and cumulative hours the student has worked during the experience. It must be maintained for each student.
- An intern evaluation will be done by the CTE teacher before the internship, at the midpoint of the internship and at the end of the internship. This same form will be completed by the on-site supervisor in the midpoint and at the end of the internship.

SCSD CTE Internship Program Checklist (To be completed by CTE teacher or WBL coordinator)

- ☐ NYSED has approved the CTE program
- ☐ The employer understands that the student placement is governed by NYSED, NYSWCB, NYSDOL, and USDOL labor laws and regulations
- ☐ NYSED Application for Employment certificate (working papers, usually available in school counseling office) has been verified (NYSED form attached)
- ☐ Employer is provided with a Certificate of Insurance from school to cover liability (sample attached)
- ☐ A written Memorandum of Agreement is in effect between the cooperating business and the education agency (**Form #1**)
- ☐ Students complete an Internship Application indicating their understanding of, and adherence to all rules and regulations set forth by the program. (**Form #2**)
- ☐ Students receive instruction embedded within their CTE curriculum relating to the technical and Career Ready Practices. The CTE teacher and the student have completed the SCSD CTE Internship Ready to Work Assessment (**Form #3**)
- ☐ An Internship Training Plan (ITP) is developed and used for each participating student (**Form #4**)
- ☐ Students are given written notification that this program will be unpaid and they are not due any wages per NYS DOL regulations (**Form #5**)
- ☐ All SCSD internship candidates have received appropriate safety certification for the industry provided by the school before internship and employer specific training and orientation is provided by the employer on the worksite (**Form #6 & Form #7**)
- ☐ All participating students are meeting, or have met, academic requirements of their CTE programs and academic subjects
- ☐ Review Time Log/Record of Attendance which serves as an official record of the hours the student has worked during the experience (**Form #8**)

REQUIRED FORMS

NYSED Application for Employment Certificate

Certificate of Insurance

SCSD Memorandum of Agreement
(Form #1)

SCSD Internship Program Application
(Form #2)

SCSD Internship Ready to Work Assessment
(Form #3)

SCSD Internship Training Plan
(Form #4)

SCSD Notification of unpaid internship
(Form #5)

SCSD Internship Safety Certification
(Form #6)

SCSD Worksite Orientation
(Form #7)

SCSD Weekly Time Log/Record of Attendance
(Form #8)

Forms are available online at the SCSD CTE website : www.syracusecityschools.com/cte

CTE Teacher/WBL Coordinator

Date

Employer Internship Partner Guidelines

SCSD CTE Internship Employer Requirements

Safety

At all times, both school personnel and the employment site personnel must take appropriate steps to ensure that safe practices are stressed and followed. However, it is impossible to guarantee that no injuries resulting in medical expenses and liability will occur. The following prudent steps are encouraged:

1. In-school course content must include training related to safety at the worksite. Appropriate safety certification should be offered if possible. SCSD internship candidates will have received appropriate safety training before beginning their internship.
2. Any sites used for SCSD CTE internships will be reviewed by school personnel prior to placing a student at the worksite.
3. Employers must provide safety training information to interns as they would a new employee. Safety training must be provided if the employer engaged in a particularly hazardous occupation for minors as defined by the USDOL.
4. Provisions for student safety must be included as part of the training agreement signed by the employer, student, parent, and school representative.

Types of Liability Insurance and Risk Management

Workers' Compensation and Employer Liability Insurance

All employers will have a policy that provides coverage for the Workers' Compensation statutory benefits as well as liability coverage for certain employment-related situations. Verification of employer's Workers Compensation insurance will be included in the Memorandum of Agreement. The SCSD will also have insurance that covers the student participating in a school-related internship experience.

SCSD CTE Internship Expectations & Responsibilities of Employer

Before

- Determine projects or activities that would be appropriate for your student intern
- Communicate with staff that an intern will be at the workplace and identify mentors
- Designate one employee, the on-site supervisor, to work with coordinator/teacher to develop and define successful student objectives and experiences and record on the student Internship Training Plan

During

- Provide student with a Work Site Orientation to organization and any required training
- Train student intern for your work site, including all work site safety training
- Maintain a quality, safe and legal learning experience; provide effective supervision
- Use the Internship Training Plan as a guide for the internship; hold intern to employee standards/ expectations; oversee, direct, and provide adequate tasking to maximize learning
- Meet with coordinator/teacher and student to decide on an ongoing communications strategy
- Evaluate intern work and provide constructive criticism
- Assist student in working toward learning outcomes
- Coordinate student schedule, approve weekly timesheets
- Communicate successes and opportunities at the workplace that the teacher can use to enhance the value of classroom connections
- Complete a student evaluation midway through internship and discuss with student

After

- Complete a final evaluation of the student
- Hold debriefing session and review performance with the student and teacher
- Complete a Program Evaluation

SCSD CTE Internship Employer Internship Partner Checklist (To be completed by On-Site Supervisor/Mentor)

- ☐ Meet with coordinator/teacher and student to agree on ongoing communication strategy (e-mail, text, telephone, etc.)
- ☐ A written Memorandum of Agreement is in effect between the cooperating business and the education agency (**Form #1**)
- ☐ Work with coordinator/teacher to develop and define successful student objectives and experiences and record on the student Internship Training Plan (**Form #4**)
- ☐ Coordinate student schedule, approve weekly time log/record of attendance (**Form #8**)
- ☐ Communicate with staff that an intern will be at the workplace and identify on-site supervisor and/or mentor

On-Site Supervisor _____

Mentor Name _____

- ☐ Provide student with Work Site Orientation to organization and any required training (Form #7)
- ☐ Create and maintain a quality, safe and legal learning experience
- ☐ Hold intern to employee standards/expectation; provide student support and candid feedback
- ☐ Communicate successes and opportunities at the workplace that the teacher can use to enhance the value of classroom connections
- ☐ Complete an interim SCSD CTE Internship Ready to Work Assessment of student performance and discuss with student (**Form #3**)
- ☐ Provide effective supervision
- ☐ Complete a final assessment of the student (**Ready to Work Assessment, Form #3 and Student Training Plan, Form #4**)
- ☐ Complete a program evaluation (**Form #10**)

REQUIRED FORMS

SCSD Memorandum of Agreement
(Form #1)

SCSD Internship Ready to Work Assessment
(Form #3)

SCSD Internship Training Plan
(Form #4)

SCSD Worksite Orientation
(Form #7)

SCSD Weekly Time Log/Record of Attendance
(Form #8)

SCSD Mentor Program Evaluation
(Form #10)

Forms are available online at the SCSD CTE website : www.syracusecityschools.com/cte

_____ _____

Employer/ Mentor Date

Student Intern Guidelines

Expectations and Responsibilities of Students

Before

- Obtain working papers (if under 18)
- Return Internship Application and all permission slips with appropriate signatures
- Meet with your teacher/coordinator and worksite supervisor to finalize an Internship Training Plan

During

- Attend Orientation at the worksite
- Observe all workplace rules and regulations particularly those applicable to safety and security concerns
- Perform all duties, jobs and assigned tasks; treat internship like a real job
- Maintain regular work schedule and notify supervisor in advance of any vacation/appointments
- Track you hours as instructed on Weekly Timesheet
- Develop skill specific learning outcomes with your worksite supervisor
- Participate in ongoing reflection journal activities and skill building classroom assignments
- Communicate with your teacher/coordinator and worksite supervisor if issues arise
- Keep copies of all necessary paperwork (work journal, training plan, Weekly Time Log/Record of Attendance, and evaluations)

After

- Participate in self-evaluation and reflection activities
- Update your resume based upon new skills and experiences gained
- Send thank you note to employer

SCSD CTE Internship Student Checklist (To be completed by student)

- ☐ Obtain NYSED Application for Employment Certificate (usually available in school counseling office, application attached)
- ☐ A written Memorandum of Agreement is in effect between the cooperating business, the education agency, and signed by student and parents (**Form #1**)
- ☐ Return Internship Application (**Form #2**) and all permission slips with appropriate signatures
- ☐ Develop skill specific learning outcomes with your worksite supervisor
- ☐ Meet with your teacher/coordinator and worksite supervisor to finalize an Internship Training Plan for the internship (**Form #4**)
- ☐ Attend orientation at the worksite (**Form #7**)
- ☐ Observe all workplace rules and regulations particularly those applicable to safety and security concerns
- ☐ Perform all duties, jobs and assigned tasks; treat internship like a real job
- ☐ Maintain regular work schedule and notify supervisor in advance of any vacation/appointments
- ☐ Track you hours as instructed on time log/record of attendance (**Form #8**)
- ☐ Participate in ongoing reflection activities and skill building classroom assignments
- ☐ Communicate with your teacher/coordinator and worksite supervisor, if issues arise and keep copies of all necessary paperwork (work journal, training plan, Weekly Time Log/Record of Attendance, and evaluations)
- ☐ Participate in self-evaluation and reflection activities (**Forms #3 & #9**)
- ☐ Update your resume based on new skills and experiences gained
- ☐ Send thank you note to employer

REQUIRED FORMS

SCSD Memorandum of Agreement
(Form #1)

SCSD Internship Program Application
(Form #2)

SCSD Internship Ready to Work Assessment
(Form #3)

SCSD Internship Training Plan
(Form #4)

SCSD Worksite Orientation
(Form #7)

SCSD Weekly Time Log/Record of Attendance
(Form #8)

SCSD Student Evaluation
(Form #9)

Forms are available online at the SCSD CTE website : www.syracusecityschools.com/cte

Student _____ Date _____

SCSD CTE Internship Forms

NYSED Application for Employment Certificate

SCSD Certificate of Insurance to Cover Student Liability (Sample)

Form #1	SCSD Memorandum of Agreement
Form #2	SCSD Internship Program Application
Form #3	SCSD Internship Ready to Work Assessment
Form #4	SCSD Internship Training Plan
Form #5	SCSD Notification of unpaid internship
Form #6	SCSD Internship Safety Certification
Form #7	SCSD Worksite Orientation
Form #8	SCSD Weekly Time Log/Record of Attendance
Form #9	SCSD Student Evaluation
Form #10	SCSD Mentor Program Evaluation

Forms are available on SCSD CTE website at www.syracusecityschools.com/cte

AT-17
Rev. 5/10

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
ALBANY, NY 12234

APPLICATION FOR EMPLOYMENT CERTIFICATE

See reverse side of this form for information concerning employment of minors.

All signatures must be handwritten in ink, and applicant must appear in person before the certifying official.

THIS APPLICATION DOES NOT AUTHORIZE EMPLOYMENT

PART I – Parental Consent – (To be completed by applicant and parent or guardian)

Parent or guardian must appear at the school or issuing center to sign the application for the first certificate for full-time employment, unless the minor is a graduate of a four-year high school and presents evidence thereof. For all other certificates, the parent or guardian must sign the application, but need not appear in person to do so.

Date……

I, …… Age ……..…
[Applicant]

Home Address ……....., apply for a certificate as checked below
[Full Home Address including Zip Code]

- ☐ Nonfactory Employment Certificate – Valid for lawful employment of a minor 14 or 15 years of age enrolled in day school when attendance is not required.
- ☐ Student General Employment Certificate – Valid for lawful employment of a minor 16 or 17 years of age enrolled in day school when attendance is not required.
- ☐ Full-Time Employment Certificate – Valid for lawful employment of a minor 16 or 17 years of age who is not attending day school.

I hereby consent to the required examination and employment certification as indicated above.

……
[Signature of Parent or Guardian]

PART II – Evidence of Age – (To be completed by issuing official only)

……. – Check evidence of age accepted – Document # (if any) ……..
[Date of Birth]

Birth Certificate State Issued Photo I.D Driver's License Schooling Record Other……
[Specify]

PART III – Certificate of Physical Fitness

Applicant shall present documentation of physical exam from a school or private physician, physician's assistant or nurse practitioner licensed to practice within New York State. Said examination must have been given within 12 months prior to issuance of the employment certificate. Date of physical exam on file with school …… If physical exam is over 12 months, provide student with certificate of physical fitness to be completed by school medical director or private health care provider.

If the physical exam or Certificate of Physical Fitness is limited with regards to allowed work/activity, the issuing official shall issue a Limited Employment Certificate (valid for a period not to exceed 6 months unless the limitation noted by the physician is permanent, then the certificate will remain valid until the minor changes jobs. Enter the limitation on the employment certificate. THE PHYSICIAN'S CERTIFICATION SHOULD BE RETURNED TO THE APPLICANT.

PART IV – Pledge of Employment – (To be completed by prospective employer)

Part IV must be completed only for: (a) a minor with a medical limitation; and (b) for a minor 16 years of age or legally able to withdraw from school, according to Section 3205 of the Education Law, and must show proof of having a job.

The undersigned will employ …… residing at ……
[Applicant]

as …… at ……
[Description of Applicant's Work] **[Job Location]**

for …… days per week …….. hours per day, beginning …… a.m. ……..…… p.m.

…… Factory ending…… a.m. ……p.m.
[Name of Firm]

Nonfactory ……..
[Address of Firm]

…… Starting date …….. ……..
[Telephone Number] **[Signature of Employer]**

PART V – Schooling Record – (To be completed by school official)

Part V must be completed only for a minor 16 years of age who is leaving school and resides in a district (New York City and Buffalo) which require a minor 16 years of age to attend school, according to Section 3205 of the Education Law.

I certify that the records of …… ……
[Name of School] **[Address]**

Show that …….. whose date of birth is ……
[Name of Applicant]

Is in grade…… ……
[Signature of Principal or Designee]

PART VI – Employment Certification – (To be completed by issuing official only)

Certificate Number ……..... Date Issued ……

…… …….. ……
[School or Issuing Center] **[Address]** **[Signature of Issuing Officer]**

GENERAL INFORMATION

An employment Certificate (Student Nonfactory, Student General, or Full Time) may be used for an unlimited number of successive job placements in lawful employment permitted by the particular type of certificate.

A Nonfactory Employment Certificate is valid for 2 years from the date of issuance or until the student turns 16 years old, with the exception of a Limited Employment Certificate. A Limited Employment Certificate is valid for a maximum of 6 months unless the limitation noted by the physician is permanent, then the certificate will remain valid until the minor changes job. It may be accepted only by the employer indicated on the certificate.

A new Certificate of Physical Fitness is required when applying for a different type of employment certificate, if more than 12 months have elapsed since the previous physical for employment.

An employer shall retain the certificate on file for the duration of the minor's employment. Upon termination of employment, or expiration of the employment certificate's period of validity, the certificate shall be returned to the minor. A certificate may be revoked by school district authorities for cause.

A minor employed as a Newspaper Carrier, Street Trades Worker, Farmworker, or Child Model, must obtain the Special Occupational Permit required.

A minor 14 years of age and over may be employed as a caddy, babysitter, or in casual employment consisting of yard work and household chores when not required to attend school. Employment certification for such employment is not mandatory.

An employer of a minor in an occupation which does not require employment certification should request a Certificate of Age.

PROHIBITED EMPLOYMENT

Minors 14 and 15 years may not be employed in, or in connection with a factory (except in delivery and clerical employment in an enclosed office thereof), or in certain hazardous occupations such as: construction work; helper on a motor vehicle; operation of washing, grinding, cutting, slicing, pressing or mixing machinery in any establishment; painting or exterior cleaning in connection with the maintenance of a building or structure; and others listed in Section 133 of the New York State Labor Law.

Minors 16 and 17 years of age may not be employed in certain hazardous occupations such as: construction worker; helper on a motor vehicle, the operation of various kinds of power-driver machinery; and others listed in Section 133 of the New York State Labor Law.

HOURS OF EMPLOYMENT

Minors may not be employed during the hours they are required to attend school.

Minors 14 and 15 years of age may not be employed in any occupation (except farmwork and delivering, or selling and delivering newspapers):

When school is in session:

- more than 3 hours on any school day, more than 8 hours on a nonschool day, more than 6 days in any week, for a maximum of 18 hours per week, or a maximum of 23 hours per week if enrolled in a supervised work study program approved by the Commissioner.
- after 7 p.m. or before 7 a.m.

When school is not in session:

- more than 8 hours on any day, 6 days in any week, for a maximum of 40 hours per week.
- after 9 p.m. or before 7 a.m.

This certificate is not valid for work associated with newspaper carrier, agriculture or modeling.

Minors 16 and 17 years of age may not be employed: --

When school is in session:

- more than 4 hours on days preceding school days; more than 8 hours on days not preceding school days (Friday, Saturday, Sunday and holidays), 6 days in any week, for a maximum of 28 hours per week.
- between 10 p.m. and 12 midnight <u>on days followed by a school day</u> without written consent of parent of guardian <u>and</u> a certificate of satisfactory academic standing from the minor's school (to be validated at the end of each marking period).
- between 10 p.m. and 12 midnight <u>on days not followed by a school day</u> without written consent of parent or guardian.

When school is not in session:

- more than 8 hours on any day, 6 days in any week, for a maximum of 48 hours per week.

EDUCATION LAW, SECTION 3233

"Any person who knowingly makes a false statement in or in relation to any application made for an employment certificate or permit as to any matter by this chapter to appear in any affidavit, record, transcript, certificate or permit therein provided for, is guilty of a misdemeanor."

ACORD® CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A :	
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	**GENERAL LIABILITY**						EACH OCCURRENCE	$
	☐ COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	☐ CLAIMS-MADE ☐ OCCUR						MED EXP (Any one person)	$
	500,000 Retained						PERSONAL & ADV INJURY	$
							GENERAL AGGREGATE	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$
	☐ POLICY ☐ PRO-JECT ☐ LOC							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ☐ NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	☐ **UMBRELLA LIAB** ☐ OCCUR						EACH OCCURRENCE	$
	☐ **EXCESS LIAB** ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N	N / A					☐ WC STATU-TORY LIMITS ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ **(Mandatory in NH)**						E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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Teacher

Employer

Student

Syracuse City School District

Syracuse City School District
725 Harrison Street, Syracuse, NY 13210

Memorandum of Agreement

(Form #1)

Type of Work Based Learning Experience: Non-Paid Internship

This Work Based Learning Experience Agreement is entered into by and between the Syracuse City School District (SCSD) _____ (Student), his/her Parents/Guardian, _____ (Parent/Guardian), and his/her Work Experience Employer, _____ (Employer), on the date indicated below, whereby the Student will participate in a CTE Internship (Program at the Employer's place of business located at _____ , on _____ , during the hours of _____ .

THE STUDENT UNDERSTANDS THAT HIS/HER CONDUCT IS A REFLECTION UPON THE SCHOOL NAME AND AGREES THAT HE/SHE WILL:

1. Provide his/her own transportation to and from the Employer's place of business (the SCHOOL, the Student's home school, the SCHOOL and the Employer are in no way responsible for providing the Student with transportation to and/or from the Employer's place of business at any time or for any incidents or accidents which may occur while the Student is on route to or from the Employer's place of business)
2. Demonstrate a conscientious attitude and be honest, punctual, cooperative, courteous and willing to learn while at the Employer's place of business.
3. Keep regular attendance as agreed upon with the Employer, excluding Employer-observed holidays, days on which the Employer's place of business is closed or other legal absences and understands that his/her attendance will be taken from his/her weekly attendance reports.
4. Keep regular attendance at his/her home school.
5. Give the Employer as much advance notice as possible if unable to report for work or to do so in a timely manner and contact the CTE teacher at (315) _____.
6. Report to SCHOOL if the Internship location is closed for any reason during at time in which the student is scheduled to be at the Internship location and SCHOOL is in session.
7. Complete weekly time log/record of attendance (Form # 8) reports as required by SCHOOL.
8. Engage in only those work based learning experiences approved by the supervisor at the work-site.

THE EMPLOYER AGREES THAT IT WILL:

1. Not permit the Student to replace any paid employee (in the case of an Internship).
2. Advise the Student of all company rules, regulations and policies which relate to the Student.
3. Explain to the Student the responsibilities and duties of his/her internship and shall correlate on-the-job training with safety instructions given by the SCHOOL.
4. The work of the Student in occupations declared particularly hazardous by the U.S. Department of Labor shall be (i) incidental to the Student's training; (ii) intermittent and for short periods of time; and (iii) under the direct and close supervision of a qualified and experienced person.
5. Provide direct supervision by an authorized employee to the Student as needed.
6. Complete an accident report form and return to SCHOOL in the event of an accident.
7. Review the Student's performance with him/her on a weekly basis and sign a weekly time sheet, complete an evaluation of the Student on forms provided by the SCHOOL.
8. Inform the SCHOOL Instructor/Coordinator when the Student is absent or not performing adequately by calling (315)_____ .

9. Observe any and all laws that may relate to the Student's work experience.

THE SCHOOL AGREES THAT IT WILL:

1. Carry the insurance listed for students during class activities including internships, job experiences and work placement.
2. Accident Insurance: SCHOOL carries tertiary accident insurance to cover medical expenses as a result of an accident. The parent's health insurance is primary and the home school district would be secondary. General Liability Insurance: SCHOOL carries general liability insurance to cover up to one million dollars for a single event. As added protection, a ten million dollar umbrella policy is also in effect.
3. Assist the Student in securing internship placement regardless of his/her sex, race, color, national origin or disability (all inquiries and/or complaints regarding discrimination should be directed to the compliance officer, Patty Clark, SCSD Central Office, 725 Harrison Street, Syracuse, New York 13210. Telephone: (315) 435-4131.
4. Provide the STUDENT with safety instructions correlated by the EMPLOYER with on-the-job training.
5. Review with the Student and the Employer their respective responsibilities and obligations while participating in the Program.

The parties/signatories hereby agree that good communication and understanding between them is vital if the objectives of this Program are to be met and that joint conferences between the Student, Employer, Parent/Guardian, Instructor, and others may be scheduled from time to time in order to discuss:

1. the student's progress
2. any misunderstandings
3. the reason for termination of the Agreement

This Agreement is not in effect until signed by all parties. This Agreement may be terminated at any time by any party upon written notice to the other parties.

We the undersigned, have reviewed and agreed to the terms and conditions set forth herein.

Date	/ /	Student
Date	/ /	Parent/ Guardian
Date	/ /	Daytime Phone
		Evening Phone
Date	/ /	Employer/ Supervisor
Date	/ /	CTE Teacher
Date	/ /	Home School Principal

The Syracuse City School District hereby advises students, parents, employees and the general public that it is committed to providing equal access to all categories of employment, programs and educational opportunities, including career and technical education opportunities, regardless of actual or perceived race, color, national origin, Native American ancestry/ethnicity, creed or religion, marital status, sex, sexual orientation, age, gender identity or expression, disability or any other legally protected category under federal, state or local law.
Inquiries regarding the District's non-discrimination policies should be directed to:
Executive Director of Student Support Services, Civil Rights Compliance Officer, Syracuse City School District, 725 Harrison Street • Syracuse, NY 13210
(315) 435-4131, Email: CivilRightsCompliance@scsd.us

Teacher

Student

Syracuse City School District

Syracuse City School District
725 Harrison Street, Syracuse, NY 13210

CTE Internship Program Application Form

(Form #2)

Personal Information

Last Name	First Name	Age	Date of Birth
Street		Home Telephone Number	Cell Phone Number
City, State, Zip		Emergency Contact Name	Telephone Number
Email Address		Relationship to Emergency Contact	
Primary Parent/ Guardian Name		Parent/ Guardian's Telephone Number Home Cell	
Primary Parent/ Guardian Email			
Secondary Parent/ Guardian Name		Secondary Parent/ Guardian's Telephone Number Home Cell	
Secondary Parent/ Guardian Email			
Working Papers Certificate Number		SCSD Student schedule should be attached to this form School Counselor	

School Year Training/ Work Schedule Availability

Please list the hours you can work during a typical weekly schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Please check applicable box: ☐ Fixed Schedule ☐ Schedule will vary

Sports, Clubs, and Other Activities

Transportation

Please check the appropriate response

Do you have a license? ☐ Yes ☐ No	If YES, which license do you have? ☐ Full License ☐ Junior License
Do you drive to school? ☐ Yes ☐ No	License Number:

If you do not have a license, how do you plan on getting to and from your internship?

☐ Public Transportation ☐ Other

Teacher

Student

INSURANCE COVERAGE IN CASE OF INJURIES TO STUDENT AT INTERNSHIP:

EMPLOYER'S WORKER'S COMPENSATION MUST COVER THE STUDENT IN CASE OF INJURIES AT TRAINING SITE.

PROGRAM AWARENESS STATEMENT TO BE CHECKED BY STUDENTS:

☐ In order to receive credit for my work-based learning experience, I must be training at a legal site approved by the school's CTE Teacher or work-based learning coordinator.

☐ I must notify my CTE teacher or work-based learning coordinator immediately if there is a change of work schedule or duties at the training site.

☐ Failure to report any disciplinary action, termination, or proper documentation of hours may result in the student not earning school credit.

☐ Students must present all daily attendance records to CTE teacher or work-based learning coordinator weekly and complete all assignments related to the program.

☐ I must immediately notify my work-based learning coordinator if I have or develop any medical condition(s) which affects my ability to participate in training, such as allergies, lifting heavy items, movement, standing, sitting, migraine headaches, etc. If there are any current conditions, please state them below. The presence of such a condition will not necessarily preclude me from participating in the internship and accommodations may be provided.

PARENTAL/GUARDIAN PERMISSION AND PICTURE/NEWS STORY RELEASE:

I give my child,_____ permission to participate in the work-based learning internship at the Syracuse City School District. By signing the parental permission form, it is understood that:

- All the information is accurate.
- In order to receive credit, students must work a minimum of 150 hours during the school year.
- All students must report to CTE teacher or work-based learning coordinator in the case of any change in employment.
- Failure to report any disciplinary action, termination, or proper documentation may result in the student not earning school credit.
- Students must present all daily attendance records to CTE teacher or work-based learning coordinator weekly and complete all assignments related to the program.
- A student with a junior license must only drive to school if they go directly to work following the school day and they must carry with them the proper paperwork as directed by the work-based learning coordinator.

In addition to agreeing with the above statements, please check off one:

☐ I give permission for my child's photograph or name to be used to promote the Work Experience Program.

☐ I do not want my child's photograph or name to be used to promote the Work Experience Program.

_____	_____	___/___/___
Parent/ Guardian's Name	Parent/ Guardian's Signature	Date

_____
Relationship to Student

_____	_____	___/___/___
Student's Name	Student's Signature	Date

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Syracuse City School District

Syracuse City School District
725 Harrison Street, Syracuse, NY 13210

CTE Internship Ready to Work Assessment

(Form #3)

Teacher | Employer | Student

Name _____ Program _____ Date ___/___/___

Scale

1 = Seldom. 2 = Occasionally. 3 = Usually. 4 = Always.

		Student	Teacher	Onsite Supervisor
ZEST				
1	Actively participates			
2	Shows enthusiasm			
3	Invigorates others			
GRIT				
4	Finishes whatever he or she begins			
5	Tries very hard even after experiencing failure			
6	Works independently with focus			
SELF CONTROL SCHOOL WORK				
7	Comes to class prepared			
8	Pays attention and resists distractions			
9	Remembers and follows directions			
10	Gets to work right away rather than procrastinating			
SELF-CONTROL INTERPERSONAL				
11	Remains calm even when criticized or otherwise provoked			
12	Allows others to speak without interruption			
13	Is polite to adults and peers			
14	Keeps his/her temper in check			

		Student	Teacher	Onsite Supervisor
OPTIMISM				
15	Gets over frustrations and setbacks quickly			
16	Believes that effort will improve his or her future			
GRATITUDE				
17	Recognizes and shows appreciation for others			
18	Recognizes and shows appreciation for his/her opportunities			
SOCIAL INTELLIGENCE				
19	Is able to find solutions during conflicts with others			
20	Demonstrates respect for feelings of others			
21	Knows when and how to include others			
CURIOSITY				
22	Is eager to explore new things			
23	Asks and answers questions to deepen understanding			
24	Actively listens to others.			
ACADEMIC PERFORMANCE				
25	Completes all assignments with quality and timeliness			
26	Uses tools appropriately and safely			
COMMITMENT				
27	Attends class with one or less absences per quarter			
28	Demonstrates loyalty and appreciation to the program and instructors			

Teacher

Employer

Student

Syracuse City School District

Syracuse City School District
725 Harrison Street, Syracuse, NY 13210

CTE Internship Training Plan
(Form #4)

Student's Name	Email	
Student's Address	Telephone	Date of Birth
CTE Program Career Cluster	Working Papers Certificate #	
School Coordinator		
Phone Number		
Fax Number		
Email		
Employer		
Phone Number		
Fax Number		
Email		
Immediate Job Supervisor		
Phone Number		
Email		
Corporate Address		

Training Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Insurance Coverage

- ☐ Student is a non-paid intern – Worker's Compensation
- ☐ Student is a non-paid observer – Worker's Compensation

Transportation Provided by

- ☐ Student/parent will provide own transportation
- ☐ School district will provide transportation during school hours

Goals for this Work-Based Learning Student:

1. To explore, learn and develop the skills necessary for this career.
2. To develop the Career Ready Practices necessary for success in the global, competitive world.
3. To be trained in the safe operations of this job title.
4. To be able to demonstrate positive behavior and appropriate dress.

(Form #4 Continued)

JOB TASKS AND LEARNING OUTCOMES (Determined by the Employer and Coordinator)	ACHIEVEMENT LEVEL AND COMMENTS 1. Mastered skill 2. Needs more training at the work site. 3. Needs more training at school. 4. Has not reached this training area.
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

CAREER READY PRACTICES	Always	Frequently	Occasionally	Rarely
1. Student works cooperatively as a team member?	☐	☐	☐	☐
2. Student is able to read instructions for information and application.	☐	☐	☐	☐
3. Student can calculate and measure for information and application.	☐	☐	☐	☐
4. Student can behave in a responsible manner without supervision.	☐	☐	☐	☐
5. Student can communicate verbally and in writing to evoke clear understanding.	☐	☐	☐	☐
6. Student demonstrates good listening and follow through skills.	☐	☐	☐	☐
7. Student demonstrates critical thinking and problem solving skills.	☐	☐	☐	☐
8. Student can locate and manage resources for problem solving.	☐	☐	☐	☐
9. Student demonstrates a positive work ethic.	☐	☐	☐	☐
10. Student demonstrates computer literacy.	☐	☐	☐	☐

(Form #4 Continued)

SAFETY TRAINING	DATE OF SAFETY TRAINING	ACHIEVEMENT LEVEL AND COMMENTS 1. Mastered safety training instruction. 2. Needs more safety training at work site. 3. Needs more safety training at school. 4. Has not reached this training area.
1. Safety precautions related to stairs, floors, office equipment and furniture.		
2. Safety precaution related to proper dress apparel, shoes, gloves, head, eye and ear protection.		
3. Safety precaution related to use of tools, machines, and chemicals.		
4. Safety precautions related to fire, weather and other natural disasters.		
5. Safety precautions related to sexual harassment and workplace violence.		

DRESS AND BEHAVIOR CODE FOR POSITION	ACHIEVEMENT LEVEL AND COMMENTS 1. Dresses/behaves appropriately 2. Needs to modify dress/behavior. 3. Needs personal consultation.

Employer Name	Employer Signature	Date / /
Work-based Learning Coordinator Name	Work Based Learning Coordinator Signature	Date / /
Parent/ Guardian Name	Parent/Guardian Signature	Date / /
Student Name	Student Signature	Date / /

If you have any questions please do not hesitate to contact me at (315) 435-_____.

Thank you for your cooperation! _____ , CTE Teacher

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Syracuse City School District

Syracuse City School District
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SCSD CTE Internship
Notification of Unpaid Internship
(Form #5)

This form serves as notification that the Syracuse City School District CTE Internship is an unpaid internship and students are not due any wages per New York State Department of Labor.

_____	____/____/____
Student	Date
_____	____/____/____
CTE Teacher/ WBL Coordinator	Date
_____	____/____/____
Worksite Representative/ Mentor	Date

Syracuse City School District

Syracuse City School District
725 Harrison Street, Syracuse, NY 13210

SCSD Internship Safety Certification
(Form #6)

Student _____ Date ____/____/____

Mentor or Supervisor _____ CTE/ WBL Teacher _____

Student CTE Program SCSD Career and Technical Program:

_____

SAFETY CERTIFICATIONS		Date
OSHA 10	☐	/ /
Safe Serv	☐	/ /
First Aid	☐	/ /
CPR	☐	/ /
Other	☐	/ /

Teacher

Employer

Student

Syracuse City School District

Syracuse City School District
725 Harrison Street, Syracuse, NY 13210

SCSD Internship Worksite Orientation
(Form #7)

Student _____ Date ___/___/___

Mentor or Supervisor _____ CTE/ WBL Teacher _____

Company Orientation

Directions: Be sure that your student employee obtains information about the factors listed below. Check the information on each item as it is completed. Return the completed form to the CTE Teacher or Work Based Learning Coordinator.

Tour of Workplace

- ☐ A tour of the workplace
- ☐ An overview of the company safety plan
- ☐ Introductions to co-workers

Tour of Employee Facilities

- ☐ Rest rooms
- ☐ Lunch room
- ☐ Where to store personal belongings

Other _____

Safety Plan

- ☐ Safety plan
- ☐ Stairwell/fire exits
- ☐ Fire Extinguishers
- ☐ Special hazards
- ☐ Accident prevention
- ☐ Safety Training Log, updated as needed

About the Company

- ☐ Discuss company organizational structure
- ☐ Review type of business, products, services
- ☐ Overview of who the customers are

Other _____

Department/Position Specifics

- ☐ Explanation of work schedule
- ☐ Review of dress and conduct code
- ☐ Review of hours, breaks and lunch policies
- ☐ Location of time clock or sign-in
- ☐ Attendance requirements, including procedures for calling in when absent
- ☐ Relationship to working with other departments or co-workers

Job Specific

- ☐ How to use the phones and office equipment
- ☐ Supplies, paper, pens, etc.
- ☐ Job description, Work-Based Learning Plan and evaluation process

Supervisors Expectations

- ☐ Dress code including clothing, hair and jewelry
- ☐ Work performance including productivity and work habits
- ☐ Company culture

Materials provided to intern

- ☐ Copy of personnel handbook
- ☐ Organizational charts
- ☐ Telephone directory
- ☐ Security procedures

Employer/training sponsor _____ Date ___/___/___

Student _____ Date ___/___/___

CTE Teacher/WBL Coordinator _____ Date ___/___/___

Teacher

Employer

Student

Syracuse City School District

Syracuse City School District
725 Harrison Street, Syracuse, NY 13210

Weekly Time Log/Record of Attendance
(Form #8)

Student _____ Training Title _____

Worksite Supervisor _____

Time Log for the Week of: ____/____/____

	Date	Start Time	End Time	Hours Worked
Sunday				
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				

Total Weekly Hours: _____

Student please list any new tasks performed this week: _____

By signing this timesheet, you are certifying that it is correct and truthful.

Student's Signature _____ Date ____/____/____

Supervisor Name _____ Phone _____ Date ____/____/____

Supervisor's Signature _____

Attention Worksite Supervisor:
If you have any questions or concerns, please contact: _____ CTE Teacher _____ Phone

The Syracuse City School District hereby advises students, parents, employees and the general public that it is committed to providing equal access to all categories of employment, programs and educational opportunities, including career and technical education opportunities, regardless of actual or perceived race, color, national origin, Native American ancestry/ethnicity, creed or religion, marital status, sex, sexual orientation, age, gender identity or expression, disability or any other legally protected category under federal, state or local law. Inquiries regarding the District's non-discrimination policies should be directed to: Executive Director of Student Support Services, Civil Rights Compliance Officer, Syracuse City School District, 725 Harrison Street • Syracuse, NY 13210/ (315) 435-4131, Email: CivilRightsCompliance@scsd.us

Syracuse City School District

Syracuse City School District
725 Harrison Street, Syracuse, NY 13210

SCSD CTE Internship Student Evaluation

(Form #9)

Name _____ CTE Program _____

Dates of Internship _____ / _____ / _____ — _____ / _____ / _____ Year to Graduate _____

Please complete this form upon completion of your internship.

	Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree
Overall, I had a great experience	☐	☐	☐	☐	☐
I was actively involved in the team meetings and felt free to express my thoughts and opinions	☐	☐	☐	☐	☐
My mentors encouraged and responded to my questions	☐	☐	☐	☐	☐
I have an increased appreciation for teamwork	☐	☐	☐	☐	☐
I have a greater ability to ask good questions and synthesize information	☐	☐	☐	☐	☐
I was presented with opportunities to learn by doing	☐	☐	☐	☐	☐
I gained factual knowledge about careers throughout the internship	☐	☐	☐	☐	☐
I would recommend this opportunity to others	☐	☐	☐	☐	☐
My time was well spent	☐	☐	☐	☐	☐
I would consider this employer as a future employer	☐	☐	☐	☐	☐
My co-workers are generally positive about work	☐	☐	☐	☐	☐

The best thing about my experience was… _____

_____

The worst thing about my experience was… _____

_____

Any suggestions on how we could improve the intern experience? _____

_____

Other comments… _____

Syracuse City School District

Syracuse City School District
725 Harrison Street, Syracuse, NY 13210

SCSD CTE Internship Mentor Program Evaluation

(Form #10)

Student Name _____ SCSD School _____

Interning Location _____

Supervisor/ Mentor Name _____ Date ____/____/____

Internship Preparation

- ☐ Exceptional
- ☐ Adequate
- ☐ Inadequate

Modes of Communication with SCSD Personnel

- ☐ In-Person
- ☐ Email
- ☐ Phone

Amount of Communication with SCSD Personnel

- ☐ Exceptionally good
- ☐ Appropriate
- ☐ Too much
- ☐ Too little

Suggestions for improvement: _____

Additional comments: _____

Return to CTE teacher: _____
CTE Teacher Email

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NOTICE OF NON-DISCRIMINATION

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(315) 435-4131

Email: CivilRightsCompliance@scsd.us

Return to TOC

F. Employability Profile

> *The employability profile is a record of student achievement. That may include documentation of the student's attainment of technical knowledge and work-related skills, endorsements, licenses, clinical experience, work experience, performance on core academic Regent's examinations, performance on industry based assessments, attendance, student leadership honors and achievements and other honors or accolades of student success.*

Process

- An employability profile model is developed for the program
- A profile of student achievement is developed for each student in the program and is maintained in accordance with records and retention policies of the school district/BOCES.
- The profile of student achievement is reviewed and updated on a continuous basis by the student and the appropriate program/guidance personnel.
- The work skills to be mastered by students with disabilities should be aligned with the student's Individualized Education Program (IEP).

Documentation

Recommendations for the employability profile model should be included in the self-study report and reviewed by the external committee.

Source: http://www.p12.nysed.gov/cte/ctepolicy/guide.html

EMPLOYABILITY PROFILE

Clinical Laboratory Technology

Industry Based Skill Standards

Proficiency Definitions

NA = Not Applicable **1 = Introduced** **2 = Trained** **3 = Trained/Skllled** **4 =Industry Level Certification/ Mastery**

	9th	10th	11th	12th
Introduction to Clinical Laboratory Technology				
Describes organizational structure of the clincal laboratory. Defines responsibilities, educational and creditialing requirements for laboratory personnel. Identifies areas of employment for laboratory technicians				
The Clinical Laboratory				
Identifies departments within the clinical laboratory and pathology and commonly performed tests in the various departments				
Legal/Ethical Responsibilities				
Defines informed consent. Explains patient confidentiality/HIPAA and how it protect patient's rights and privacy. Defines standard of care. Demonstrates characteristics of professional behavior.				
Infection Control Practices				
Demonstrates proper handwashing and glove removal techniques. Identifies steps to avoid transmission of Bloodborne Pathogen. Demonstrates use of proper PPE. Disposes of sharps and biohazard waste appropriately. Prepares a 10% bleach solution. Explains the chain of infection				
Maintaining/Promoting a Safe Laboratory Enviroment				
Identifies key aspects of biological, chemical, and fire safety as it pertains to the clinical laboratory. Interprets SDS, GHS chemical labeling and NFPA hazard rating labels				
Venipuncture				
Identifies components of vacuum tube system, various types of vacuum tubes and anticoagulants. Demonstrates the correct "order of draw". Describes patient identifcation process. Identifies appropriate & alternative sites for venipuncture. Demonstrates how to apply a tourniquet and decontamination process. Performs three methods of venipunctures. Performs a capillary				
Specimen Collection				
Describes the difference between whole blood, serum, & plasma. Demmonstrate knowledge of urinary & other body fluids necessary to perform specimen collection tasks. Explains various types of urine collections. Explains information to patients for specimen				
Customer Service Skills				
Demonstrates effective communication skills verbally, non-verbally and written. Demostrates problem solving techniques with workplace conflicts. Demonstrates active listening skills ,empathy and compassion with patients.				
Data entry				
Completes a patient requisition. Accurately enters patient demographics and insurance. Accurately enters test and diagnosis information.				

	9th	10th	11th	12th
Compound Microscope				
Demonstrates correct use and focusing techniques. Demonstrates proper care and storage of microscope.				
Specimen Processing				
Demonstrates proper maintenance, usage and safe operation of centrifuge. Understands time contraints of specimens. Demonstrates proper specimen processing, labeling and				
Urinalysis				
Performs a physical and chemical exam of urine. Intreprets results of chemical exam. Prepares specimen for microscopic exam of urine. Performs a urine HCG.				
Circulatory System				
Applies medical terminology appropriately. Describes structures and functions of heart. Identify and describe cellular and non-cellular components of blood. Describe structures and functions of blood vessels. Locate and name veins most commonly used for venipuncture.				
Hematology				
Identifies proper specimen for hematological testing. Performs and intrepret results of Hct and Hgb specimens. List reference values for Hgb and Hct specimens. Properly prepares and stains a blood smear. Identifies five normal leukocytes. Demonstrates				
Immunohematology				
Performs a slide ABO/Rh blood typing procedure.				
Microbiology				
Demonstrates proper streaking techniques of culture media. Prepares and gram stains specimens. Identifies gram postive and gram negative organisms. Performs a rapid tests for Group A Streptococcus and Mononucleosis.				
Chemistry				
Performs basic chemistry panels using Piccolo analyzer. Performs glucose testing using a hand-held analyzer. Understanding of chemistry reference values. Demonstrates knowledge of quality control measures on instrumentation.				

Industry Certifications Attained	**Yes**
ASCP Certification	

College Credits Attained		Yes
SUNY Broome CLT 110	1 CH	
SUNY Broome CLT 120	1 CH	
SUNY Broome CLT 204	3 CH	
Total		

EMPLOYABILITY PROFILE

Clinical Laboratory Technology

Student Name: _____ School Year: _____ Absences: _____

ID Number: _____ Teacher: _____ Final Grade: _____

Career Ready Practices / Career Development Standards

STANDARDS DEFINITIONS

NA = Not Applicable 1 = Developing 2 = Basic 3 = Proficient 4 = Mastery

	9th	10th	11th	12th
Acts as a responsible citizen/employee				
Is on time and prepared, follows workplace policies, demonstrates reliability and dependability, is polite and courteous to adults and peers, demonstrates appreciation, and is reliable and consistent in their actions				
Applies appropriate academic and technical skills				
Demonstrates an understanding of the academic knowledge and skills associated with their trade. Technical skills are developed with academic competencies including English language arts and science that are integrated within the CTE program.				
Attends to personal health and financial well-being				
Recognizes the benefits of physical, mental, social, and financial well-being to the importance of that success in their career. Accepts criticism and works towards self-improvement targets on a consistent basis.				
Communicates clearly, effectively, and with reason.				
Is able to communicate both verbally and in writing to express ideas and obtain information. Uses appropriate vocabulary to share information both verbally and in writing as well. Demonstrates active listening skills and verbal communication.				
Makes appropriate decisions				
Considers the environmental, social, and economic impacts of their decisions. Understands that their actions and decisions will impact other people directly. Works independently and responds positively to new ideas and suggestions.				
Demonstrates creativity and innovative thought				
Demonstrates creativity and new thinking to solve workplace problems as encountered. Is creative, innovative, and is eager to explore new ways of addressing issues and challenges that are encountered.				
Employs valid and reliable research strategies				
Seeks information to develop a deeper understanding of issues encountered. Uses technology as a tool to research, organize, and evaluate information critically incompetently. Interprets information and draws conclusions based on best analysis.				
Uses critical thinking skills and demonstrates perseverance				
Demonstrates problem-solving skills through the use of creative thinking, decision-making, and adaptability. Effectively reasons through difficult situations, and makes decisions even when faced with complex or challenging problems.				

	9th	10th	11th	12th
Models integrity, ethical behavior, and leadership				
Is accountable and transparent in all of their work and assignments. Consistently exhibits ethical behavior, and commitment to completing tasks as assigned. Develops and demonstrates leadership skills, assuming responsibility readily.				
Develops and implements a Career Plan				
Develops a career plan based on understanding of their personal goals and the career pathways that aligns to them. Develops resumes, cover letters, and examples of best work to aid in the job seeking process and/or entrepreneurial goals.				
Uses technology to enhance productivity				
Demonstrates an understanding of the use of technology related to their career pathway. Continually develops their ability to adapt to changing work environments using technology, including new tools and their associated applications.				
Works as a productive and respectful team member				
Actively participates as a member of a team recognizing and appreciating others skills and abilities. Adds to the collective value of the team, and invigorates others to add to the collective efforts and goals.				
Demonstrates reliability and dependability				
Regardless of tasks given, demonstrates reliable and dependable behaviors to meet the expectations as defined. Attendance and levels of participation meet expectations consistently. Take on additional responsibilities without prompting.				
Arrives on time and is prepared to work				
Consistently demonstrates promptness, reliability, and commitment to reporting for classes, work site experiences, and other assignments as defined. Reports prepared for work or education as requirements dictate, meets attendance requirements.				
Demonstrates safe working habits				
When engaging in worksite situations or learning labs, uses tools and equipment safely, observes general safety guidelines for material handling, and meets the expectations of maintaining a safe work environment for others.				
Demonstrates problem solving skills				
Addresses problems encountered using effective problem-solving strategies. Works to define potential solutions to problems, identifies and implements the best solution based on the information gathered and their skill and knowledge.				

Earned Technical Endorsement on Diploma **YES** ☐ NO ☐

Industry Credential(s) Awarded See Reverse Side

Special Recognitions or Scholarships _____

Student Leadership Organization _____

Return to TOC