



SCIENCE & TECHNOLOGY MAGNET HIGH SCHOOL  
OF SOUTHEASTERN CONNECTICUT

PROGRAM OF STUDY

COURSE DESCRIPTIONS  
GRADUATION REQUIREMENTS  
SAMPLE SCHEDULES

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## **INTRODUCTION**

The Program of Study for the Science & Technology Magnet High School of Southeastern Connecticut (STMHS) is designed to help students create an educational program that meets the goals of the program and STMHS's requirements for graduation.

The STMHS is a regional comprehensive high school program which specializes in unique STEM areas (science, technology, engineering, and mathematics) programming. Students can major and minor in different focus areas. Unique integrated blended programs can also accommodate unique student interests and career paths. The STMHS program is designed to prepare students for success in STEM area Post Secondary Institutions eventually leading students to earn a 2-4 year degree.

| <b>STEM Focus Areas</b>                    | <b>Integrated Blended Area Examples</b> |
|--|---|
| A. Biomedical Sciences                     | -Biomedical Engineering                 |
| B. Engineering                             | -Engineering Technology                 |
| C. Environmental Science                   | -Environmental Engineering              |
| D. Technology (Multi Media and Networking) | -Games Engineering                      |
|  | -Graphics Engineering                   |
|  | -Networking Engineering                 |
|  | -Pre-Medical Science Prep Program       |
|  | -Ocean Science & Engineering            |
|  | -Agricultural Science & Engineering     |

\*Students are required to take four credits of science and four credits of mathematics.

\*\* Some STEM Focus area elective courses may count as science credit.

Students should consider all focus area major and minor focus area possibilities and choose courses that suit their individual interests, skills, needs and future education and career goals. Working with the support and input of parents and school counselors, students should endeavor to experience a variety of learning opportunities.

### **Student Course Load:**

1. In order that students develop a broad background as well as a degree of specialization in one of the focus areas, students are strongly encouraged to take at least seven credits each year. **It is important to note that colleges and institutions of higher learning look carefully at student course load information (both quality and quantity) especially during the junior and senior years. Therefore, juniors and seniors should take at least six credits each year.**
2. Courses taken in 7<sup>th</sup> and 8<sup>th</sup> grade, such as algebra, do not count towards high school graduation. However, if taken in middle school, these courses will allow students time to earn advanced placement credits in high school.
3. Please refer to the ***New London High School Program of Study*** for more information.

## CORE SCIENCE COURSE DESCRIPTIONS

### Investigating Life A & B

**Freshman Year**

(1 credit total, .5 for each semester A & B)

Students will investigate answers to the following questions: Is there life elsewhere in the universe? How did life originate on Earth? What is life's destiny on Earth and in space? Through a series of integrated and inquiry-based activities designed according to the theme, The Search for Life on Other Planets, students will explore diverse concepts in chemistry, Earth and space science, and engineering. Throughout the curriculum, students will be designing and conducting experiments. Topics that will be covered include: atoms, the periodic table, polymers, renewable energy sources, electricity, and human impact on the environment.

**Prerequisite:** Middle School Science

**Level(s):** College Prep  
Honors

A/B – STMH 04850/04851

A/B – STMH 04828/04829

### Cell & Molecular Biology A & B

**Sophomore Year**

(1 credit total, .5 for each semester A & B)

- The focus of this course is on the molecular nature of biology and its application to the field of biotechnology. The content of this course includes:
- Chemical and cellular processes and their interrelationships
- Genetics
- The evolution and diversity of life
- An introduction to human biology

**Prerequisite for College Prep:** Teacher Recommendation

A/B – STMH 04854/04855

**Prerequisite for Honors:** B or better in 9<sup>th</sup> grade Science

A/B – STMH 04830/04831

### Advanced Placement Biology (A & B) (2 Periods)      **Sophomore, Junior, or Senior Year**

(2 Credits)

Advanced Placement Biology establishes a foundation of more advanced courses in biology and related sciences at the undergraduate level. Topics include: molecular and cellular biology; genetics; ecology; evolution; and the diversity, structure and functions of organisms. There is a large laboratory component to the course as well. Students who elect this course should be willing to accept the rigorous demands placed upon them by a college level course. Students are required to take the Advanced Placement Exam in the spring upon completion of the course and may receive credit from a large number of colleges and universities.

**Prerequisite:** Teacher Recommendation

A/B – STMH0 04949/04950

## CORE SCIENCE COURSE DESCRIPTIONS (CONTINUED)

### **Chemistry**

**Junior Year**

The following courses can count towards chemistry credit: Honors Chemistry, College Prep Chemistry, and Environmental Science CCP.

#### **Honors Chemistry A & B**

*(1 credit total, .5 for each semester A & B)*

*(Mitchell College credit given for this course.)*

This introductory chemistry course is designed for students interested in pursuing a career related to science, whether that science is biology, chemistry, engineering, geology, physics, or related subjects. The assumption is that students electing this course will have had a basic foundation in algebra and honors levels sciences.

This course provides a broad overview of the principles of chemistry and the reactivity of chemical compounds. It presents chemistry as a field that not only has a lively history, but also one that is currently dynamic, with important new developments always on the horizon. Efforts are made to provide insight into the chemical aspect of the world around us and to give students the tools needed to function as chemically literate citizens.

Topics include the following: matter, energy, and change, measurements and solving problems, atoms: building blocks of matter, arrangement of electrons in atoms, the periodic law, chemical bonding, and chemical formulas. For the second semester topics continue with the development of concepts concerning chemical equations and reactions, stoichiometry, physical characteristics of gases, liquids and solids, solutions, ions in aqueous solutions, acids and bases, acid-base titration and pH.

**Prerequisite: Grade of B or better in Cell Molecular Biology and a grade of C or better in Algebra II.**

A/B – STMH 04824/04825

#### **College Prep Chemistry A & B**

*(1 credit total, .5 for each semester A & B)*

This course is primarily concerned with the principles and theories of chemistry in order to lead the student to an understanding of the nature of the matter and the chemical changes matter undergoes. Emphasis is placed on atomic structure and its relation to the periodic table, the bonding of atoms and their activity, and the formation of substances. This then leads directly to the consideration of ionization, acids, bases and salts, and equilibrium. Mathematical relationships in compounds, chemical change, and chemical laws are stressed. Laboratory experiments are specifically chosen to point out quantitative relationships. Experiments are chosen to emphasize the laws, principles and reactions discussed in class. The laboratory work stresses techniques used in handling apparatus and chemicals and familiarizes the students with the properties of many substances. The second semester continues where College Prep Chemistry (A) left off and encompasses gas laws, solutions and molecular theory.

**Prerequisite: Algebra II, Grade of B or better in Cell Molecular Biology (College Prep), or D- or better in Honors Cell Molecular Biology**

A/B – STMH 04856/04857

## CORE SCIENCE COURSE DESCRIPTIONS (CONTINUED)

### **Physics (Core Science Elective Senior Year)**

Physicists explore and identify basic principles governing the structure and behavior of matter, the generation and transfer of energy, and the interaction of matter and energy. Some physicists use these principles in theoretical areas, such as the nature of time and the origin of the universe, while others work in practical areas such as the development of advanced materials, electronic and optical devices, and medical equipment. Physicists design and perform experiments with lasers, cyclotrons, telescopes, mass spectrometers and other equipment. Based on observations and analysis, they attempt to discover the laws that describe the forces of nature, such as gravity, electromagnetism, and nuclear interactions. They also find ways to apply physical laws and theories to problems in nuclear energy, electronics, optics, materials, communications, aerospace technology, and medical instrumentation. Mathematical ability, computer skills, an inquisitive mind, imagination, good oral and written communications skills, and the ability to work independently and with others are important traits for anyone planning a career in physics.

#### ***Possible Job Titles include:***

- *Physics Professor*
- *Geophysicist*
- *Nuclear Physicist*
- *Solid-state Physicist*
- *Technologist*
- *High School Physics Teacher*
- *Astronomer*
- *Meteorologist*
- *Optics Researcher*
- *Engineer*

### **Physics A & B**

**Senior Year**

*(1 credit total, .5 for each semester A & B)*

Introductory Physics involves the study of Newtonian mechanics. Mathematical proficiency is mandatory since course material depends on the students' ability to apply mathematical skills to analyze physical phenomenon. The course is hands-on and as such will require extensive laboratory work and will include several long-term projects. This course is designed for the student who wants a good foundation in the basic sciences before pursuing their college degree.

***Prerequisite:*** Algebra II

***Co-requisite:*** Pre-Calculus

A/B – STMH 04937/04938

## CORE SCIENCE COURSE DESCRIPTIONS (CONTINUED)

### **Physics (Core Science Elective Senior Year)**

#### **Advanced Placement Physics B – Algebra-Based**

**Senior Year**

(1 credit total, .5 for each semester A & B)

Physics B is an Algebra-based course that follows National College Board Standards. It will include the fields of fluid mechanics, thermodynamics, electricity and magnetism, waves and optics as well as atomic and nuclear physics. The course requires extensive laboratory work and will be project based. Students will be expected to build on skills acquired in mathematics classes and Physics. This course is recommended for students intending to pursue a post high school degree requiring a science component. The Physics B Advanced Placement test will be taken upon completion of this course.

**Prerequisites:** *Physics, Algebra II*

**Co-requisite:** *Pre-Calculus*

A/B – STMH 04918/04919

#### **Advanced Placement Physics C – Calculus-Based**

**Senior Year**

(1 credit total, .5 for each semester A & B)

Physics C is a Calculus based course such as might be found at the introductory college level. It will begin with a review of topics in Newtonian Physics and then move into the fields including electricity and magnetism, circular motion and rotation applying calculus based solutions whenever appropriate. The course is a rigorous study of basic physical concepts such as might be found in a college level course for science and engineering majors. Although covering less material than the Algebra-based AP course, it will explore that material in more depth. This course is recommended for students intending to pursue a post high school degree in engineering or related fields. The Physics C Advanced Placement test will be taken upon completion of this course.

**Prerequisite:** *Physics, Pre-Calculus*

**Co-requisite:** *Calculus*

A/B STMH04939/04940

## CORE SCIENCE COURSE DESCRIPTIONS (CONTINUED)

### **Allied Health/Biotechnology (Possible Science Elective(s) Senior Year)**

*The health professions include a variety of medical careers. A strong understanding of the science concepts related to the functioning human body and interest in the well-being of people and their quality of life are attributes of successful health-care professionals. Biotechnology is a promising field that is predicted to be one of the pivotal forces of the 21st Century. Today it is saving lives through the development of breakthrough drugs and improving the quality of life with new agriculture and environmental products. One common definition of biotechnology is "the use of living cells and materials to develop and manufacture products used in improving human health, animal health, agriculture, and the environment".*

#### **Possible Job Titles include:**

- *Physician*
- *Nurse*
- *Physical Therapist*
- *Laboratory Technician*
- *Dentist*
- *Biomedical Engineer*
- *Cell Culture and Fermentation Researcher*
- *Microbiologist*
- *Animal Technician*
- *Genome Analyst*
- *Clinical Research Associate*
- *Agricultural Researcher*

## **Sports Medicine**

*(.5 credit)*

The goal of this course is to provide resources and opportunities to expand students' knowledge of health-related careers in athletic training, physical therapy, sports medicine and sports management. This course will include topics such as the following:

- Health Care Careers
- Anatomy
- Nutrition
- Exercise Program Design
- Organization & Administration
- Recognition, Evaluation & Management
- Injury Prevention, Recognition & Treatment

This course will be taught as an introductory Sports Medicine class designed to provide students with the knowledge and skills necessary to provide a safe environment for athletes while participating in sports. The history and development of sports medicine will be examined as well as athletic training as a profession. Various medical injuries and conditions will be investigated with a focus on prevention and rehabilitation of injuries. Students will study and demonstrate a knowledge of taping skills while getting hands on experience working with NLHS athletes. Additionally, students will become certified in American Red Cross First Aid and CPR. A 10 hour Practicum with an athletic team is required. A student may complete a Teacher approved Field Project in lieu of the Practicum.

***Prerequisite:*** *Guidance and instructor recommendation*

STMH 04916

## **Forensic Science**

*(0.5 credit)*

This course applies science to the law. It offers the knowledge and technology needed for definition, enforcement and clarification of evidence in criminal and civil cases. This one semester course is a laboratory-based and involves scientific investigations using microscopy, chromatography, comparative analysis techniques, electrophoresis, spot tests, and qualitative analysis examinations. The focus is on problem solving, designing experiments, testing, and making conclusions based on empirical evidence. Writing is an integral part of the course with students being expected to communicate laboratory reports, results, and conclusions, and analyze case studies.

***Prerequisite:*** *Guidance and instructor recommendation*

STMH 04848

## **Junior or Senior Year**

## **Junior or Senior Year**

## SENIOR PROJECT/CAPSTONE COURSES

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### **Senior Project** (1 credit – full year)

Senior Year

**\*Students may satisfy this requirement by enrolling in one of the focus area senior capstone courses or by individualized alternative experience approved by administration.**

**\*Student Work Based Experiences & Internships can be established in this course.**

In this course/experience students will be involved in an interdisciplinary project through which they solve problems to demonstrate key learning and skills. The student will meet with an advisor at the beginning of the year and map out this project. Near the end of the year, a culminating multi-media presentation will be made to a panel consisting of school personnel, family members, community supporters, and / or mentors as appropriate. The project could be completed individually or collaboratively as a group. Academic learning can become relevant through the hands-on experiences at selected worksites. Students can be placed with an employer-approved mentor to introduce the student to all aspects of the industry, to coach the student in the workplace skills necessary to be successful in the workplace. (Work based experiences for students will be based on individual student interest.)

The Connecticut Career Choices Information Technology Leadership Academy/ Research and Development Curriculum will be utilized to help guide integrated project work. The IT R&D course was designed to guide student academic, engineering and problems solving skills through the completion of a comprehensive IT Research and Design (R&D) project. For example, students can act as a member of a design team and utilize a variety of communication technologies and multimedia software to research, design, develop and present a viable solution to a comprehensive challenge. Students also can form a “mock” technology company and assume roles in the company to complete activities needed to development a solution. Patent research and intellectual property management are integral components of the R&D project. This comprehensive instructional strategy mirrors industry R&D and project engineering work that results in multiple solutions and the development of valuable high-tech engineering and business management skills.

**The Senior Capstone Course is a required course for all magnet students.**

***Prerequisite:*** Successful completion of all foundation coursework

STMH 04893

## **FOCUS AREA C: ENVIRONMENTAL SCIENCE**

Environmental scientists conduct research to identify and abate or eliminate sources of pollutants that affect people, wildlife, and their environments. These workers analyze and report measurements and observations of air, water, soil, and other sources and make recommendations on how best to clean and preserve the environment. Understanding the issues involved in protecting the environment—degradation, conservation, recycling, and replenishment—is central to the work of environmental scientists, who often use their skills and knowledge to design and monitor waste disposal sites, preserve water supplies, and reclaim contaminated land and water to comply with Federal environmental regulations. Environmental scientists need interpersonal skills, because they usually work as part of a team with other scientists, engineers, and technicians. Strong oral and written communication skills also are important, because writing technical reports and research proposals, as well as communicating research results to others, are important aspects of the work.

### ***Possible Job Titles include:***

- *Environmental Ecologist*
- *Hydrologist*
- *Air Quality Monitor*
- *Environmental Protection Agency Supervisor*
- *Natural Resource Specialist*
- *Wildlife Biologist*
- *Environmental Chemist*
- *Ecological Modeler*
- *Landfill Designer*
- *Watershed Manager*
- *Naturalist*
- *Forest Ranger*
- *Environmental Engineer*
- *Water Quality Scientist/Engineer*

### **Environmental Science/CCPP A & B**

*(1 credit)*

### **Sophomore/Junior Year**

**\* This course is articulated as part of the Three Rivers College Career Pathway Program**

This course will help students understand Earth systems and their role in ensuring a healthy environment for the future. This course will address world land-use, biodiversity, water, soil, and air quality, geology and watershed issues. Students will learn scientific principles, concepts and methodologies required to understand the interrelationships of the natural world.

To address the wide variety of professions in the field of environmental science, this is a two-pronged course. It will address the needs of college-bound students and provide experiences to reinforce students' ability to enter the work force upon graduation.

**Prerequisite:** Teacher Recommendation

A/B – STMH 04906/04907

**Advanced Placement Environmental Science A & B**

**Junior or Senior Year**

(1 credit)

**Students have the opportunity to earn credit through Mitchell College.**

The content requirements of this course are determined by the National College Board. It is an introductory college course that includes a laboratory and field investigation component. Emphasis is placed on scientific principles, concepts and methodologies. Students are required to understand the interrelationships of the natural world and will be able to identify and to analyze both natural and manmade environmental problems, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving and/or preventing them. Students will investigate special topics in environmental science including a study of Long Island Sound, and coral propagation and global environmental issues. Students are expected to take the national Advanced Placement test in this area.

***Prerequisite:*** Teacher Recommendation

A/B – STMH 04912/04913

## **FOCUS AREA A: BIOMEDICAL SCIENCE**

The PLTW™ (Project Lead the Way [www.pltw.org](http://www.pltw.org)) Biomedical Sciences program will consist of a sequence of four courses: Principles of the Biomedical Sciences, Human Body Systems, Medical Intervention, and Scientific Research. The goal of the program is to provide rigorous and relevant curriculum that is project and problem-based in order to engage and prepare high school students for the post-secondary education and training necessary for success in the wide variety of careers associated with the Biomedical Sciences including, physician, nurse, veterinarian, scientific and pharmaceutical researcher, therapist, and technician. This course is appropriate for all students interested in pursuing a career in biological sciences, emergency services, healthcare, or medicine. The rigorous curriculum uses the Activities, Projects, and Problems modality that is grounded in real-world relevance. This approach addresses the learning styles and needs of the majority of students. The courses are project-based and allow students to apply the concepts they learn in other mathematics and science courses.

The PLTW Biomedical Science Program is designed to:

- Address the impending critical shortage of qualified science and health professionals.
- Prepare students for rigorous post-secondary education and training.

### ***Common Threads in Biomedical Courses:***

- Students do authentic real-world work.
- Learning is contextual—not disjointed series of concepts.
- Students work in teams.
- Expectations are clearly articulated to students.
- Scientific Method, Experimental Design, and Laboratory Methods
- Science Technology and Societal Ethics
- Engineering Principles
- Scientific Documentation
- Effective Internet and Print Research
- Careers—Post-Secondary Education

### ***Biomedical Science Related Career Paths:***

- Social worker
- Health Information Manager
- Pharmacist
- Ultrasound Technician
- Medical Technical Writer
- Radiologist
- Doctor
- Nurse
- Dentist
- Veterinarian
- Medical Technologist
- Pharmaceutical Scientist
- Biomedical Engineer

\*Note: Anatomy and Physiology concepts will be imbedded throughout the Biomedical Science curriculum.

## **Principles of the Biomedical Sciences A & B      Fresh, Soph, Jr, or Sr Year**

(1 credit total, .5 for each semester A & B)

This course provides an introduction to the biomedical sciences through exciting "hands-on" projects and problems. Student work involves the study of human medicine, research processes and an introduction to bio-informatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person's life. Key biological concepts including: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease are embedded in the curriculum. Engineering principles including: the design process, feedback loops, fluid dynamics, and the relationship of structure to function are incorporated in the curriculum where appropriate. The course is designed to provide an overview of all the courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses.

***Prerequisite for College Prep: Teacher Recommendation***

A/B – STMH 04957/04958

***Prerequisite for Honors: Teacher Recommendation and concurrent enrollment in Honors level science and mathematics***

A/B – STMH 04826/04827

## **Human Body Systems A & B**

**Sophomore, Junior or Senior Year**

(1 credit total, .5 for each semester A & B)

The human body is a complex system requiring care and maintenance. This course will engage students in the study of basic human physiology, especially in relationship to human health. Students will use a variety of monitors to examine body systems (respiratory, circulatory, and nervous) at rest and under stress, and observe the interactions between the various body systems. Students will use LabView® software to design and build systems to monitor body functions

***Prerequisite: Successful completion of Principles of the Biomedical Sciences***

***Prerequisite for College Prep: Teacher Recommendation***

A/B – STMH 04959/04960

***Prerequisite for Honors: Teacher Recommendation and concurrent enrollment in Honors level science and mathematics***

A/B – STMH 04817/04818

### **Medical Interventions A & B**

**Junior or Senior Year**

(1 credit total, .5 for each semester A & B)

Medical practice includes interventions to support humans in treating disease and maintaining health. Student projects will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. Students will study the design and development of various medical interventions including vascular stents, cochlear implants, and prosthetic limbs. They will review the history of organ transplants and gene therapy, and read current scientific literature to be aware of cutting edge developments. Using 3-D imaging software and current scientific research students will design and build a model of a therapeutic protein.

**Prerequisite:** *Successful completion of Human Body Systems*

**Prerequisite for College Prep:** *Teacher Recommendation*

A/B – STMH 04961/04962

**Prerequisite for Honors:** *Teacher Recommendation and concurrent enrollment in Honors level science and mathematics*

A/B – STMH 04980/04981

### **Biomedical Science Research/Senior Capstone**

**Senior Year**

(1 credit total, .5 for each semester A & B)

This capstone course gives student teams the opportunity to work with a mentor, identify a science research topic, conduct research, write a scientific paper, and defend team conclusions and recommendations to a panel of outside reviewers. Each team will have one or more mentors from the scientific and/or medical community guiding their scientific research. This course may be combined with the capstone course from the pre-engineering pathway, allowing students from both pathways to work together to engineer a product that could impact healthcare.

\*This course satisfies the senior project graduation requirement.

**Prerequisite:** *Successful completion of Medical Interventions*

**Prerequisite for College Prep:** *Teacher Recommendation*

A/B – STMH 04815/04816

**Prerequisite for Honors:** *Teacher Recommendation and concurrent enrollment in Honors level science and mathematics*

A/B – STMH 04818/04819

## **FOCUS AREA B: ENGINEERING**

The Project Lead the Way ([www.pltw.org](http://www.pltw.org)) Pathways to Engineering curriculum enables students to enroll in a four year sequence of pre-engineering courses which, when combined with traditional mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering prior to entering college. However, those not intending to pursue further formal education will benefit greatly from the knowledge and logical thought processes, and team work, that result from taking some or all of the courses provided in the curriculum.

Engineers help to design and manufacture just about everything—from the tallest skyscrapers to the smallest computer chips, from cars to space shuttles, from miracle fabrics to artificial heart valves. Even though their efforts are all around us, the work of engineers can seem like a mystery to those outside the profession. In the most general terms, engineers are problem-solvers. They apply the concepts of mathematics and science to solving real-world challenges. The engineering profession includes many different disciplines. In fact, engineering may offer more career options than any other profession. Engineers are a diverse group, contributing to projects that improve the quality of life on every continent. A background in engineering can also lead to a career in law, business, education, medicine, or public policy.

### ***Possible Job Titles include:***

- *Chemical Engineer*
- *Mechanical Engineer*
- *Electrical Engineer*
- *Systems Engineer*
- *Environmental Engineer*
- *Nuclear Engineer*
- *Transportation Engineer*
- *Agricultural Engineer*
- *Automotive Engineer*
- *Civil Engineer*
- *Aerospace Engineer*
- *Computer Engineer*
- *Biomedical Engineer*
- *Ocean Engineer*
- *Manufacturing Engineer*
- *Architectural Engineer*
- *Materials Engineer*

**\*Project Lead The Way** requires students to have specific math experience for its courses. All pre-engineering students need to take *Introduction to Engineering Design* in grade 9. If pre-engineering students enroll in school after grade 9 arrangements will be made for students to receive content from IED.

## **Introduction to Engineering Design A & B**

**Freshman Year**

(1 credit total, .5 for each semester A & B)

This course emphasizes the development of design and communication. Students study the design concepts of form and function; then, use state-of-the-art technology to translate conceptual design into reproducible products. During introduction to engineering design student learning will culminate in students completing an innovation challenge team project. Introduction to Engineering Design is a course that teaches problem solving skills utilizing the design-development process. Effective team work is central to project based assignments. Models of products are created, analyzed, evaluated, and communicated using solid modeling computer design software. Prototypes are generated with various computer aided technology such as a plastic three dimensional printer. Students will be introduced to how industry designs, manufactures, and markets products such as plastics.

This course teaches students to:

- Apply the design process to solve various problems in a team setting
- Apply adaptive design concepts in developing sketches, features, parts and assemblies
- Interpret their own sketches in using computer software to design models
- Understand mass property calculations-such as volume, density, mass, surface area, moment of inertia, product of inertia, radii of gyration, principal axes and principal moments-and how they are used to evaluate a parametric model
- Understand cost analysis, quality control, staffing needs, packing and product marketing
- Develop portfolios to display their designs and present them to others

***Prerequisite:*** None

College Prep

A/B – STMH 04852/04853

Honors

A/B – STMH 04840/04841

## **Principles of Engineering A & B**

**Sophomore, Junior, or Senior Year**

(1 credit total, .5 for each semester A & B)

This course provides an overview of engineering and engineering technology. Students develop problem-solving skills by tackling real-world engineering problems. Through theory and practical hands-on experiences, they address the emerging social and political consequences of technological change. Exploring various engineering systems and processes help students learn how engineers and engineering technicians use math, science, technology, and teamwork in an engineering process to benefit society. Applied physics concepts are introduced and utilized to help analyze project solutions. All units utilize supplementary engineering analysis software.

The course of study includes:

- Overview and Perspective of Engineering
- Electricity
- Communication and Documentation
- Statistics
- Engineering for Quality and Reliability
- Fluid Mechanics (hydraulics & Pneumatics)
- Strength of Materials
- Design Process
- Robotics
- Engineering Systems
- Thermodynamics
- Statics & Dynamics
- Structures & Trusses

***Prerequisite for College Prep:*** Teacher Recommendation

A/B – STMH 04868/04869

***Prerequisite for Honors:*** Teacher Recommendation and concurrent enrollment in Honors level science and mathematics

A/B – STMH 04842/04843

## **Computer Integrated Manufacturing A & B**

**Sophomore, Junior, or Senior Year**

(1 credit total, .5 for each semester A & B)

This course teaches the fundamentals of computerized manufacturing technology. It builds on the solid-modeling skills developed in the Introduction to Engineering Design course. Students use 3-D computer software to solve design problems. They assess their solutions through mass property analysis (design, function, and materials), modify their designs, and use prototyping equipment to produce 3-D models. The course includes these integrated concepts:

- Computer Modeling
- Robotics
- Flexible Manufacturing Systems
- Computer-aided Manufacturing (CAM)
- Computer Numerical Control (CNC) Equipment

***Prerequisite for College Prep:*** Teacher Recommendation

A/B – STMH 04920/04921

***Prerequisite for Honors:*** Teacher Recommendation and concurrent enrollment in Honors level science and mathematics

A/B – STMH 04836/04837

## **Digital Electronics A & B**

**Sophomore, Junior, or Senior Year**

(1 credit total, .5 for each semester A & B)

Digital Electronics is a course in applied digital logic that encompasses the application of electronic circuits and devices, a key element of careers in engineering and technology. This course explores the smart circuits found in watches, calculators, video games and computers. Industry standard computer simulation software is used to design, analyze, and test digital circuitry prior to the actual construction of circuits and devices. Students will have the ability to create digital controlled systems and devices like a remote controlled robot, digital clock, calculator, and digital signal devices that can send and receive multiple signals through a single line. The engineering design process is utilized throughout the course on project-based team projects. Students use mathematics and science in solving real-world engineering problems.

This course covers several topics, including:

- Analog and digital fundamentals
- Number systems and binary addition
- Logic gates and functions
- Boolean algebra and circuit design  
Decoders, multiplexers and de-multiplexers
- Synchronous or asynchronous counters, shift registers and various memory devices
- Microprocessors
- Programmable Logic Devices

***Prerequisite for College Prep:*** Teacher Recommendation

A/B – STMH 04880/04881

***Prerequisite for Honors:*** Teacher Recommendation and concurrent enrollment in Honors level science and mathematics

A/B – STMH 04838/04839

## **Civil Engineering and Architecture A & B**

**Sophomore, Junior, or Senior Year**

(1 credit total, .5 for each semester A & B)

This course provides an overview of the fields of Civil Engineering and Architecture, while emphasizing the interrelationship and dependence of both fields on each other. Students use state of the art software to solve real world problems and communicate solutions to hands on projects and activities. This course covers topics such as: the roles of civil engineers and architects, project planning, site planning, site design, surveying, building design, interior design, structural analysis, project documentation and presentation, and construction systems. Students complete designs of a residential home and a commercial project. Students also work in teams to design their commercial project and will present in front of a professional panel.

***Prerequisite for College Prep:*** Teacher Recommendation

A/B – STMH 04951-04952

***Prerequisite for Honors:*** Teacher Recommendation and concurrent enrollment in Honors level science and mathematics

A/B – STMH 04846/04847

## **Senior Project - Engineering Design and Development A & B**

**Senior Year**

(1 credit total, .5 for each semester A & B)

This course lets students apply what they have learned in academic and pre-engineering courses, as they complete challenging, self-directed projects. Students work in teams to design and build solutions to authentic engineering problems. An engineer from the school's partnership team mentors each student team. Examples of projects may include a robotic mascot for the school, a remote-controlled hovercraft, or a solar powered device. Students keep journals of notes, sketches, mathematical calculations and scientific research. Student teams make progress reports to their peers, mentor and instructor and exchange constructive criticism and consultation. At the end of the course, teams present their research paper and defend their projects to a panel of engineers, business leaders, and engineering college educators for professional review and feedback. This course equips students with the independent study skills that they will need in postsecondary education and careers in engineering and engineering technology.

\*This course satisfies the senior project graduation requirement.

***Prerequisite: All foundation PLTW Pre-Engineering Coursework***

***Prerequisite for College Prep: Teacher Recommendation***

A/B – STMH 04945/04946

**Future courses for program expansion in the Project Lead the Way Pathways to Engineering Program include Aerospace Engineering and Biotechnical Engineering.**

### **Aerospace Engineering**

Through hands-on engineering projects developed with NASA, students learn about aerodynamics, astronautics, space-life sciences, and systems engineering (which includes the study of intelligent vehicles like the Mars rovers Spirit and Opportunity).

Future Course ID A/B – STMH 04953/04954

### **Biotechnical Engineering**

Relevant projects from the diverse fields of bio-technology, bio-engineering, bio-medical engineering, and bio-molecular engineering enable students to apply and concurrently develop secondary-level knowledge and skills in biology, physics, technology, and mathematics.

Future Course ID A/B – STMHS 04955/04956

## **INFORMATION TECHNOLOGY FOCUS AREA D: DIGITAL MEDIA**

Information only has value when someone wants to read it. A riveting presentation is vital to the message that is being delivered, whether creating a hot web site, a video or designing the latest computer game. Digital media specialists bring ideas to life. They estimate costs, the length of the job, and determine whether to call in additional help from inside or outside the company. Customers want the best tools to design and format presentations, but often the size of the project and budget puts limits on how far the project can go. Designers determine look and feel, select colors, and create a visually appealing layout. The tools used change at an incredible pace, so constant learning about the latest developments is essential. (NWCET, 2002)

### ***Possible Job Titles:***

- *2D/3D Artist*
- *Animator*
- *Audio/Video Engineer*
- *Designer*
- *Media Specialist*
- *Media Designer*
- *Programmer*
- *Multimedia Author*
- *Producer*
- *Production Assistant*
- *Web Designer*
- *Web Producer*
- *Web Specialist*
- *Graphic Designer*

### **Digital Design I**

*(0.5 credit)*

This one-semester course develops skills that lay the foundation for producing Web-ready communications: graphic design principles, storyboarding, development, peer review, and redesign. Project activities focus on developing effective personal communications. Students develop a variety of graphical images, an electronic portfolio, a web photo album, and interactive graphics. Although, not specifically stated, there is a great deal of flexibility implied in the curriculum.

***Prerequisite:*** none

**Sophomore, Junior, or Senior Year**

STMH 04875

### **Digital Design II**

*(0.5 credit)*

In the second semester of Digital Design, students build on their design and development skills by shifting the perspective away from the personal to the local. Students now work in teams to produce web communications for clients. The focus is on effective teamwork and shared project management skills such as interviewing and project scheduling. They produce design documents and visual comps that clients review. They develop website designs that solve specific communication challenges. They build technical skills to address client needs for their websites. Students are urged to take the **Certified Dreamweaver MX Developer** exam at the end of this class.

***Prerequisite:*** *Digital Design I*

**Sophomore, Junior, or Senior Year**

STMH 04876

**E-Commerce****Junior or Senior Year***(0.5 credit)*

The E-Commerce course is designed to introduce students to the world of E-Commerce and develop academic skills, creative thinking, and problem solving through the completion of a comprehensive E-Commerce business project. Students and teachers will set up, develop, and maintain a fully functioning online store. As part of their coursework, students and teachers will participate in synchronous and asynchronous online technical seminars and virtual conferences facilitated by content experts, high school teachers, and technology professionals.

***Prerequisite:*** *Digital Design II*

STMH 04877

**Digital Video Editing****Sophomore, Junior, or Senior Year***(0.5 credit)*

This semester course is an introductory course and gateway to the advanced video offering. The majority of time will be spent learning the basic principles of videography such as workflow, project planning, video capture, editing techniques, editing audio, video layering, motion graphics and output formats. Students will also learn the basics of lighting, sound and interview techniques. Evaluation is based primarily on skill acquisition and the students' contributions to their portfolio. Adobe Digital Video Curriculum is anticipated to be used.

***Prerequisite:*** *none*

STMH 04922

**Video Production & Design****Sophomore, Junior, or Senior Year***(0.5 credit)*

In this one-semester class, students will learn how to make a production using the new tools of the digital age. Students will learn simple and practical techniques for making movies, music videos, documentaries, promotional and industrial videos, and other kinds of visual stories. Students will write, plan, and shoot an original script. This class focuses on pre-production and production. Students will collaborate on an original story, planning and scripting a short production. They will then be provided with cameras, microphones, and lighting and each take on a role in the production. Students who take this class need to have commitment to learning the basics of digital production. This course teaches students how to create effective structures when planning a film. The combination of effective structures and production techniques leads to savings in time and money.

***Prerequisite:*** *None*

STMH 04923

**Games Art****Sophomore, Junior, or Senior Year***(0.5 credit)*

This course examines the fundamentals of computer generated 2D and 3D modeling and animation as they apply to creating believable characters and environments. Students will learn skeletal animation and traditional polygonal animation, giving weight and personality to characters through movement, environmental lighting, and changing mood and emotion.

***Prerequisite:*** *None*

STMH 04884

**Games Design**

**Sophomore, Junior, or Senior Year**

*(0.5 credit)*

This course looks at video game history, the taxonomy of video games, game play design - components of a video game experience, and software architecture for video games.

***Pr-requisite:*** None

STMH 04885

**Games Programming**

**Sophomore, Junior, or Senior Year**

*(0.5 credit)*

Introduction to the programming of video games. Course will explore use of video game engines and how to write video games. Additional topics will focus on efficient utilization of variables and data structures, run-time optimization, real-time debugging, version control maintenance, and management of bug lists.

***Prerequisite:*** Games Art or Games Design

STMH 04886

## **INFORMATION TECHNOLOGY FOCUS AREA D: NETWORK DESIGN**

Network technicians make sure that network hardware and software are operating properly so people get the information they need when they need it. Using cable, fiber optics or even wireless communications, they connect users to the organization's computer system. It is vital to understand networking technology for local area networks (LANs), and for connecting to larger networks and the Internet. Network technicians quickly identify, document, and solve problems. Working with the user in mind, it is important to know the needs of the company and recommend improvements based on user needs and technology advances. (NWCET, 2002)

### ***Possible Job Titles:***

- Communication Analyst
- Information Systems Administrator
- Network Administrator
- Network Engineer
- Network Specialist
- PC Support Specialist
- Systems Engineer
- Technical Support Specialist
- Security Professional
- Computer Programmer

### **Technology Foundation Skills A & B**

**Freshman Year**

(1 credit total, .5 for each semester A & B)

This course provides students with the essential competencies to pursue further study in information technology. Emphasis is on the career concentrations of network systems, information support and services, programming and software development, and interactive media. Students will study information technology basics, applications, and systems, while enhancing technical skills, academic foundations, communication, leadership, teamwork, ethics, and legal responsibilities. Communication skills, problem solving, research, and critical thinking are reinforced in this course.

***Prerequisite:*** None

A/B - STMH 04965/04966

### **HP IT Essentials I – PC Hardware & Software**

**Sophomore or Junior Year**

(0.5 credit)

IT Essentials: PC Hardware and Software v4.0 covers the fundamentals of computer hardware and software as well as advanced concepts. Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Students will also be able to connect to the Internet and share resources in a network environment. New topics included in this version include laptops and portable devices, wireless connectivity, security, safety and environmental issues, and communication skills. This course helps students prepare for CompTIA's A+ certification.

***Prerequisite:*** *Technology Foundation Skills*

STMH 04887

## **HP IT Essentials II - Network Operating Systems**

**Sophomore or Junior Year**

*(0.5 credit)*

IT Essentials II: Network Operating Systems is an intensive introduction to multi-user, multi-tasking network operating systems. Characteristics of the Linux, Windows 2000, NT, and XP network operating systems will be discussed. Students will explore a variety of topics including installation procedures, security issues, back up procedures and remote access.

**Prerequisite:** *HP IT Essentials I – PC Hardware & Software*

STMH 04888

## **CISCO Discovery Program**

We live in an increasingly connected world, creating a global economy and a growing need for technical skills. Cisco Networking Academy delivers information technology skills to over 500,000 students a year in more than 165 countries worldwide. Networking Academy students have the opportunity to participate in a powerful and consistent learning experience that is supported by high quality, online curricula and assessments, instructor training, hands-on labs, and classroom interaction. This experience ensures the same level of qualifications and skills regardless of where in the world a student is located.

Networking Academy students will become the architects of the networked economy; enabling everyday experiences on the global human network. With the ever-increasing demand for their skills, Networking Academy students have the chance to dream about business-critical positions never before imagined, in industries ranging from medicine and finance to entertainment and aerospace. Networking Academy opens doors to rewarding careers and opportunities for economic advancement and local community development. Students only need to be 'Mind Wide Open' to the possibilities.

The Cisco CCNA® Discovery curriculum provides foundational networking knowledge, practical experience, opportunities for career exploration, and soft-skills development to help students prepare for entry-level careers in IT and networking. The curriculum offers a hands-on approach to learning, and uses interactive tools and easy-to-follow labs to help students learn the general theory needed to build networks.

CCNA Discovery is designed to be offered as an independent, standalone curriculum or combined with programs offered by secondary schools, technical schools, colleges, and universities. Students who enroll in CCNA Discovery are not expected to have any previous technical skills or knowledge, aside from basic PC skills.

CCNA Discovery allows for quick application of learned concepts to encourage students to consider additional education in IT. It uses easy-to-follow, step-by-step labs that provide detailed instructions and feedback to help students reach the final solution. CCNA Discovery includes embedded e-doing, highly interactive activities that stimulate learning and improve knowledge retention. E-doing involves rich multimedia, including Flash-based activities, videos, and interactive quizzes, that address a variety of learning styles, increase comprehension, and provide a rich learning experience.

## Course Description

The CCNA Discovery curriculum is composed of four courses:

- Networking for Home and Small Businesses
- Working at a Small-to-Medium Business or ISP
- Introducing Routing and Switching in the Enterprise
- Designing and Supporting Computer Networks

The courses are delivered sequentially, and each course is a prerequisite for the next course. CCNA Discovery teaches networking based on application covering the types of practical networks students may encounter, from simple home or small office networks to more complex enterprise models. Students learn the technical skills and soft skills needed to succeed in entry-level networking professions such as a network installer, help desk technician, pre-sales support technician, or network technician. CCNA Discovery also provides an introduction to advanced technologies such as voice, video, wireless, and security

The CCNA Discovery curriculum prepares students for two different Cisco certification exams, CCENT® or CCNA®. After completing the Networking for Home and Small Businesses and Working at a Small-to-Medium Business or ISP courses, a student can choose to complete the CCENT® certification (Cisco Certified Entry Network Technician) certification exam. CCENT certifies that students have developed the practical skills required for entry-level networking support positions. In addition, this certification is designed to assess a student's aptitude and competence for working with Cisco routers, switches and Cisco IOS™. CCENT is an optional first step toward earning the Cisco CCNA® network associate certification, which is the foundational certification for networking careers. Students who complete all four CCNA Discovery courses will be prepared for the industry-standard CCNA certification exam.

### Networking for Home and Small Business

**Junior or Senior Year**

*(0.5 credit)*

Skills and Competencies

- Set up a personal computer system, including the operating system, interface cards, and peripheral devices
- Plan and install a small network connecting to the Internet
- Troubleshoot network and Internet connectivity
- Share resources such as files and printers among multiple computers
- Recognize and mitigate security threats to a home network
- Configure an integrated wireless access point and wireless client

**Prerequisite:** *HP IT Essentials II – Network Operating Systems, Algebra I, Typing Skills*

STMH 04894

### **Working at a Small-to-Medium Business or ISP**

**Junior or Senior Year**

*(0.5 credit)*

#### Skills and Competencies

- Understand the structure of the Internet and how communication occurs between hosts
- Install, configure, and troubleshoot Cisco IOS devices
- Plan a basic wired infrastructure to support network traffic
- Configure a server to share resources and provide common Web services
- Implement basic WAN connectivity using Telco services
- Demonstrate proper disaster-recovery procedures and perform server backups

**Prerequisite:** *Networking for Home and Small Business*

STMH 04995

### **Introducing Routing and Switching in the Enterprise**

**Senior Year**

*(0.5 credit)*

#### Skills and Competencies

- Implement a LAN for an approved network design
- Configure a switch with VLANs and inter-switch communication
- Implement access lists to permit or deny specific traffic
- Implement WAN links
- Configure routing protocols on Cisco devices
- Perform LAN, WAN, and VLAN troubleshooting using a structured methodology and the OSI model

**Prerequisite:** *Working at a Small-to-Medium Business or ISP*

STMH 04969

### **Designing and Supporting Computer Networks**

**Senior Year**

*(0.5 credit)*

#### Skills and Competencies

- Gather customer requirements
- Design a simple Internetwork using Cisco technology
- Design an IP addressing scheme to meet LAN requirements
- Create an equipment list to meet LAN design requirements
- Install and configure a prototype Internetwork
- Obtain and upgrade Cisco IOS software in Cisco devices

**Prerequisite:** *Introducing Routing and Switching in the Enterprise*

STMH 04969

SCIENCE & TECHNOLOGY MAGNET HIGH SCHOOL OF  
SOUTHEASTERN CONNECTICUT

**GRADUATION REQUIREMENTS**

**STMHS** students must earn a minimum of 25 credits, including a community and career-focused Internship and a *Senior Project* related to the Learning Strand of their choice.

|                           |           |
|---------------------------|-----------|
| English                   | 4 credits |
| Mathematics               | 4 credits |
| **1 credit in Algebra     |           |
| Science                   | 4 credits |
| Social Studies            | 3 credits |
| Technology                | 1 credit  |
| Electives                 | 3 credits |
| World Language            | 2 credits |
| Senior Project/Internship | 1 credit  |
| Physical Ed./Health       | 2 credits |

\*1.0 Physical Education credits can be obtained by successfully participating in two different varsity sports, beginning with the class of 2011.

|           |          |
|-----------|----------|
| Fine Arts | 1 credit |
|-----------|----------|

\*Fine Arts requirement fulfilled with successful completion of Introduction to Engineering Design or other technology courses delineated as approved as fine art or technology.

In addition, students must:

- Complete at least 60 hours in *Community Learning* projects.
- *Successfully complete CAPT Test or related performance standard*

## SCHEDULING TEMPLATE

| <u><b>Grade 9</b></u>  | <u><b>Grade 10</b></u>         | <u><b>Grade 11</b></u>         | <u><b>Grade 12</b></u>         |
|--|--------------------------------|--------------------------------|--------------------------------|
| <i>English</i>   | <i>English</i>                 | <i>English</i>                 | <i>English</i>                 |
| <i>Math</i>  | <i>Math</i>                    | <i>Math</i>                    | <i>Math</i>                    |
| <i>Science</i>   | <i>Science</i>                 | <i>Science</i>                 | <i>Science</i>                 |
| <i>World Language</i>  | <i>World Language</i>          | <i>World Language</i>          | <i>Elective</i>                |
| <i>Soc Studies</i>   | <i>Soc Studies</i>             | <i>Soc Studies</i>             | <i>Elective</i>                |
| <i>Elective</i>  | <i>Elective</i>                | <i>Elective</i>                | <i>Elective</i>                |
| <i>Introduction to<br/>Engineering<br/>Design/Technology<br/>Foundations</i> | <b>FOCUS AREA<br/>ELECTIVE</b> | <b>FOCUS AREA<br/>ELECTIVE</b> | <b>FOCUS AREA<br/>ELECTIVE</b> |

**ACCELERATED HONORS PROGRAM:**  
**Sample Schedule Template**

| <b>Grade 9</b>   | <b>Grade 10</b>                      | <b>Grade 11</b>                               | <b>Grade 12</b>   |
|--|--------------------------------------|---|---|
| <i>English</i>   | <i>English</i>                       | <i>AP English Symposium</i>                   | <i>AP English Symposium</i>   |
| <i>Honors Geometry</i>                                 | <i>Math Algebra II (TRCC CCP)**</i>  | <i>Math Pre Calculus</i>                      | <i>Math AP Calculus***</i>  |
| <i>Honors Investigating Life in the Universe</i>       | <i>Honors Cell Molecular Biology</i> | <i>Science Mitchell College Chemistry****</i> | <i>Science Physics (TRCC CCP)**</i>   |
| <i>Foreign Language</i>                                | <i>World Language</i>                | <i>World Language</i>                         | <i>English (semester) Public Speaking (TRCC CCP)** And Physical Education and/or Health</i> |
| <i>Honors World History</i>                            | <i>AP U.S. History***</i>            | <i>AP Government***</i>                       | <i>TRCC CCP Elective**</i>  |
| <i>Focus Elective/ Minor Focus Elective*****</i>       | <i>Physical Education/Health</i>     | <i>Elective*****</i>                          | <i>Elective*****</i>  |
| <i>Honors PLTW Introduction to Engineering Design*</i> | <i>Focus Elective*****</i>           | <i>Focus Elective*****</i>                    | <i>Senior Research/Design Course</i>  |

*\*PLTW/University of New Haven or Rochester Institute of Technology Credit if Pass College Final Exam*

*\*\*Three Rivers Community College -College Career Pathway Program (3 credits ea. Course)*

*\*\*\*Advanced Placement Course (Recognized as college level by College Board)*

*\*\*\*\*Mitchell College Course (Transcript grade is equal to grade received in course)*

*\*\*\*\*\*Electives in Honors Program in PLTW Engineering, Environmental Science will have opportunity for college credit, Select IT courses will have certifications, PLTW BioMed is currently in the articulation process with National Affiliated Universities.*

*Sample Schedule for*

**FOCUS AREA: BIOMEDICAL SCIENCE**

**Ninth Grade**

| <b><u>Courses</u></b>                                  | <b><u>Credits</u></b> |
|--|-----------------------|
| Investigating Life in the Universe                     | 1.0                   |
| Math   | 1.0                   |
| English  | 1.0                   |
| US History   |                       |
| World Language   | 1.0                   |
| Introduction to Engineering/<br>Technology Foundations | 1.0                   |
| Physical Education/Health                              | 1.0                   |
|  | 7.0                   |

**Tenth Grade**

| <b><u>Courses</u></b>                 | <b><u>Credits</u></b> |
|---------------------------------------|-----------------------|
| Cell & Molecular Biology              | 1.0                   |
| Math                                  | 1.0                   |
| English                               | 1.0                   |
| American History                      | 1.0                   |
| World Language                        | 1.0                   |
| Principles of the Biomedical Sciences | 1.0                   |
| Elective                              | 1.0                   |
|                                       | 7.0                   |

**Eleventh Grade**

| <b><u>Courses</u></b>              | <b><u>Credits</u></b> |
|------------------------------------|-----------------------|
| Chemistry                          | 1.0                   |
| Math                               | 1.0                   |
| English                            | 1.0                   |
| Government                         | 1.0                   |
| World Language                     | 1.0                   |
| Introduction to Human Body Systems | 1.0                   |
| Elective                           | 1.0                   |
|                                    | 7.0                   |

**Twelfth Grade**

| <b><u>Courses</u></b>               | <b><u>Credits</u></b> |
|-------------------------------------|-----------------------|
| Physics/Allied Health-Biotechnology | 1.0                   |
| Math                                | 1.0                   |
| English                             | 1.0                   |
| Senior Biomedical Research Course   | 1.0                   |
| Physical Education                  | 1.0                   |
| Medical Interventions               | 1.0                   |
| Elective                            | 1.0                   |
|                                     | 7.0                   |

## FOCUS AREA: ENGINEERING

### Ninth Grade

| <u>Courses</u>   | <u>Credits</u> |
|--|----------------|
| Investigating Life in the Universe                     | 1.0            |
| Math   | 1.0            |
| English  | 1.0            |
| US History   |                |
| World Language   | 1.0            |
| Introduction to Engineering/<br>Technology Foundations | 1.0            |
| Physical Education/Health                              | 1.0            |
|  | 7.0            |

### Tenth Grade

| <u>Courses</u>            | <u>Credits</u> |
|---------------------------|----------------|
| Cell & Molecular Biology  | 1.0            |
| Math                      | 1.0            |
| English                   | 1.0            |
| American History          | 1.0            |
| World Language            | 1.0            |
| Principles of Engineering | 1.0            |
| Elective                  | 1.0            |
|                           | 7.0            |

### Eleventh Grade

| <u>Courses</u>      | <u>Credits</u> |
|---------------------|----------------|
| Chemistry           | 1.0            |
| Math                | 1.0            |
| English             | 1.0            |
| Government          | 1.0            |
| World Language      | 1.0            |
| Digital Electronics | 1.0            |
| Elective            | 1.0            |
|                     | 7.0            |

### Twelfth Grade

| <u>Courses</u>   | <u>Credits</u> |
|--|----------------|
| Physics/Allied Health-Biotechnology  | 1.0            |
| Math   | 1.0            |
| English  | 1.0            |
| Engineering Design and Development<br>(Senior Capstone Course)             | 1.0            |
| Physical Education   | 1.0            |
| Computer Integrated Manufacturing or<br>Civil Engineering and Architecture | 1.0            |
| Elective   | 1.0            |
|  | 7.0            |

Sample Schedule for

**FOCUS AREA: ENVIRONMENTAL SCIENCE**

**Ninth Grade**

| <b><u>Courses</u></b>                                  | <b><u>Credits</u></b> |
|--|-----------------------|
| Investigating Life in the Universe                     | 1.0                   |
| Math   | 1.0                   |
| English  | 1.0                   |
| US History   |                       |
| World Language   | 1.0                   |
| Introduction to Engineering/<br>Technology Foundations | 1.0                   |
| Physical Education/Health                              | 1.0                   |
|  | <hr/>                 |
|  | 7.0                   |

**Tenth Grade**

| <b><u>Courses</u></b>    | <b><u>Credits</u></b> |
|--------------------------|-----------------------|
| Cell & Molecular Biology | 1.0                   |
| Math                     | 1.0                   |
| English                  | 1.0                   |
| American History         | 1.0                   |
| World Language           | 1.0                   |
| Environmental Science    | 1.0                   |
| Elective                 | 1.0                   |
|                          | <hr/>                 |
|                          | 7.0                   |

**Eleventh Grade**

| <b><u>Courses</u></b>                    | <b><u>Credits</u></b> |
|--|-----------------------|
| Chemistry                                | 1.0                   |
| Math                                     | 1.0                   |
| English                                  | 1.0                   |
| Government                               | 1.0                   |
| World Language                           | 1.0                   |
| Advanced Topics/AP Environmental Science | 1.0                   |
| Elective                                 | 1.0                   |
|  | <hr/>                 |
|  | 7.0                   |

**Twelfth Grade**

| <b><u>Courses</u></b>               | <b><u>Credits</u></b> |
|-------------------------------------|-----------------------|
| Physics/Allied Health-Biotechnology | 1.0                   |
| Math                                | 1.0                   |
| English                             | 1.0                   |
| Senior Research Course              | 1.0                   |
| Physical Education                  | 1.0                   |
| Elective                            | 1.0                   |
| Elective                            | 1.0                   |
|                                     | <hr/>                 |
|                                     | 7.0                   |

## FOCUS AREA: INFORMATION TECHNOLOGY-DIGITAL MEDIA

### Ninth Grade

| <u>Courses</u>   | <u>Credits</u> |
|--|----------------|
| Investigating Life in the Universe                     | 1.0            |
| Math   | 1.0            |
| English  | 1.0            |
| US History   |                |
| World Language   | 1.0            |
| Introduction to Engineering/<br>Technology Foundations | 1.0            |
| Physical Education/Health                              | 1.0            |
|  | 7.0            |

### Tenth Grade

| <u>Courses</u>           | <u>Credits</u> |
|--------------------------|----------------|
| Cell & Molecular Biology | 1.0            |
| Math                     | 1.0            |
| English                  | 1.0            |
| American History         | 1.0            |
| World Language           | 1.0            |
| Digital Design I & II    | 1.0            |
| Elective                 | 1.0            |
|                          | 7.0            |

### Eleventh Grade

| <u>Courses</u>     | <u>Credits</u> |
|--------------------|----------------|
| Chemistry          | 1.0            |
| Math               | 1.0            |
| English            | 1.0            |
| Government         | 1.0            |
| World Language     | 1.0            |
| Games Art & Design | 1.0            |
| Elective           | 1.0            |
|                    | 7.0            |

### Twelfth Grade

| <u>Courses</u>                                      | <u>Credits</u> |
|---|----------------|
| Physics/Allied Health-Biotechnology                 | 1.0            |
| Math  | 1.0            |
| English   | 1.0            |
| Technology Senior Capstone Course                   | 1.0            |
| Physical Education                                  | 1.0            |
| Digital Video Editing &<br>Digital Video Production | 1.0            |
| Elective  | 1.0            |
|   | 7.0            |

**FOCUS AREA: INFORMATION TECHNOLOGY-NETWORKING**

**Ninth Grade**

| <u>Courses</u>   | <u>Credits</u> |
|--|----------------|
| Investigating Life in the Universe                     | 1.0            |
| Math   | 1.0            |
| English  | 1.0            |
| US History   |                |
| World Language   | 1.0            |
| Introduction to Engineering/<br>Technology Foundations | 1.0            |
| Physical Education/Health                              | 1.0            |
|  | 7.0            |

**Tenth Grade**

| <u>Courses</u>  | <u>Credits</u> |
|---|----------------|
| Cell & Molecular Biology  | 1.0            |
| Math  | 1.0            |
| English   | 1.0            |
| American History  | 1.0            |
| World Language  | 1.0            |
| HP IT Essentials I & II: PC Hardware & Software/<br>& Network Operating Systems | 1.0            |
| Elective  | 1.0            |
|   | 7.0            |

**Eleventh Grade**

| <u>Courses</u>  | <u>Credits</u> |
|---|----------------|
| Chemistry   | 1.0            |
| Math  | 1.0            |
| English   | 1.0            |
| Government  | 1.0            |
| World Language  | 1.0            |
| CCNA 3 & 4: Networking Basics/<br>Router and Routing Basics | 1.0            |
| Elective  | 1.0            |
|   | 7.0            |

**Twelfth Grade**

| <u>Courses</u>  | <u>Credits</u> |
|---|----------------|
| Physics/Allied Health-Biotechnology                                       | 1.0            |
| Math  | 1.0            |
| English   | 1.0            |
| Technology Senior Capstone Course   | 1.0            |
| Physical Education  | 1.0            |
| CCNA 3 & 4: Switching Basics and Intermediate<br>Routing/WAN Technologies | 1.0            |
| Elective  | 1.0            |
|   | 7.0            |

**Sample Schedule Template for:**  
**BIOMEDICAL ENGINEERING**

|                           | <b>Grade 9</b>   | <b>Grade 10</b>  | <b>Grade 11</b>  | <b>Grade 12</b>                                       |
|---------------------------|--|--|--|---|
| <b>English</b>            | English  | English  | English  | English   |
| <b>Mathematics</b>        | Math   | Math   | Math   | Math  |
| <b>Science</b>            | Astro-Biology  | Cell Molecular Biology                                       | Chemistry  | Physics   |
| <b>World Language</b>     | World Language   | World Language   | World Language   | PE/Health Elective                                    |
| <b>Social Studies</b>     | Social Studies   | Social Studies   | Social Studies   | Elective  |
| <b>BioMedical Science</b> | PE/Health Elective : Principles of the BioMedical Sciences | Elective: Introduction to Bio-Medicine or Human Body Systems | Elective: Human Body Systems or Medical Interventions      | Elective: Medical Interventions or Elective           |
| <b>Engineering</b>        | Introduction to Engineering Design                         | Elective: Principles of Engineering or Digital Electronics   | Elective: Principles of Engineering or Digital Electronics | Engineering Design and Development / Science Research |

Sample Schedule Template for:

**ENVIRONMENTAL ENGINEERING**

|                           | Grade 9                            | Grade 10   | Grade 11   | Grade 12   |
|---------------------------|------------------------------------|--|--|--|
| <b>English</b>            | English                            | English  | English  | English  |
| <b>Mathematics</b>        | Math                               | Math   | Math   | Math   |
| <b>Science</b>            | Astro-Biology                      | Cell Molecular Biology                                     | Chemistry  | Physics  |
| <b>World Language</b>     | World Language                     | World Language   | World Language   | PE/Health Elective   |
| <b>Social Studies</b>     | Social Studies                     | Social Studies   | Social Studies   | Elective: Civil Engineering and Architecture PTLW                              |
| <b>BioMedical Science</b> | PE/Health or Elective              | Elective: Environmental Science                            | Elective: Advanced Topics/AP Environmental Science         | Elective: College Level Environmental Science (Future Possibility) or elective |
| <b>Engineering</b>        | Introduction to Engineering Design | Elective: Principles of Engineering or Digital Electronics | Elective: Principles of Engineering or Digital Electronics | Engineering Design and Development / Science Research                          |

## **GUIDING STANDARDS & RESOURCES**

The Magnet High School Curriculum Committee used national standards in science and technology, New London Public Schools' standards, as well as the Connecticut Frameworks in science and technology to guide its work.

### **I National Science Education Content Standards**

<http://www.nap.edu/readingroom/books/nse/html/>

### **II National Workforce Center for Emerging Technologies**

**Information Technology Skills Standards:** Skill Standards are a meaningful, industry-derived framework for developing curriculum, profiling jobs, recruiting and evaluating employees, and designing academic and professional certification programs. They provide a common language for educators, industry, and other stakeholders interested in information technology education and workforce issues. The Magnet High School will concentrate on the Skills Standards in the three bolded Career Clusters.

- **Database Administration and Development**
- **Digital Media**
- **Network Design and Administration**
- Enterprise Systems Analysis and Integration
- Programming Design and Administration
- Programming /Software Engineering
- Technical Support
- Technical Writing
- Web Development and Administration

### **III Connecticut State Department of Education Core Science Science Curriculum Framework – Content Standards and Expected Performances**

<http://www.state.ct.us/sde/dtl/curriculum/currsci.htm>

### **IV Technology Education Curriculum Framework**

<http://www.state.ct.us/sde/dtl/curriculum/frtecpdf/Frtech.pdf>

## **COMMUNITY-WORK BASED & EXPERIENTIAL LEARNING**

The Science and Technology Magnet High School extends classroom learning into the community through individual internships, project-based service-learning and community service projects. Alliances with community partners such as the Coast Guard Academy, Connecticut College, Mitchell College, and the Bateswoods Environmental Education Program (BEEP) allow students to see the relevance of academic studies by participating in relevant real-life projects. The Science and Technology Magnet High School takes a three-pronged approach to engaging our students in the community:

- **Work Based and Experiential Learning:** The work based program at the STMHS will provide industry-based learning experiences for educators and students. Work based learning offers students and teachers an opportunity to connect the learning in the classroom to the needs and demands of higher education and the highly skilled and innovative workplace. Work-based experiences and learning can take place in many forms. Some examples are: field trips, job shadowing, internships, externships, mentoring, guest speakers, part time employment, career exploration etc. Work based learning will expose students to the relevancy of their education. The major goal of the STMHS Work Based Program is to optimally prepare students to enter the highly skilled, highly paid, and innovative workforce of tomorrow. Work-based learning takes on many forms, including: career exploration, field trip/company tour, job shadowing, internship and part time employment. Many forms of work based learning can be referred to as experiential learning experiences.
- **Internships:** The Magnet High School will work through both the School-To-Career Program and specific classes to place individual students in paid or unpaid jobs that match their career interests. This experience is valuable in guiding career choices while the student is gaining confidence and skills in the world of work.
- **Service-Learning:** The Magnet High School offers class participation in service projects that apply classroom learning to community issues. Working with community experts from a wide variety of backgrounds, students analyze community needs, design solutions and implement plans. Critical thinking skills, teamwork and citizenship awareness are enhanced in service-learning experiences.
- **Community Service:** In addition to service hours done through class work; individual students may engage in after-school community service. The Science and Technology Magnet High School assists students in finding opportunities that match their interests and abilities. Independence and responsibility are developed through this personal connection to the student's community.
- **College Career Symposium Presentations:** Guest speakers from business and industry and post secondary institutions will visit the STMHS and speak to students on career opportunities and entry into respective programs.

## **EXPECTATIONS FOR STUDENT LEARNING**

*Upon entering the STMHS:*

The STMHS has a college preparatory program in place providing students rigorous and relevant curriculum that demands students to engage in project and problem based work. This curriculum is designed to prepare students for the post-secondary education and training necessary for success in the wide variety of careers associated with: Science, Technology, Engineering and Mathematics. The rigorous curriculum uses the activities, projects, and problems modality that is grounded in real-world relevance.

- Students need to be able to work independently and be self motivated to be held accountable for the degree of self learning and independent learning that is required.
- Students need to be able to use and learn how to use technology appropriately to support their learning activities, projects and problems.
- Students need to be able to participate in team environments that require students to work collaboratively on ongoing projects.
- Students need to be organized to manage the demands of the rigorous STEM curriculum.
- Students need to be responsible for their own learning behavior, follow procedures, processes, and guidelines while demonstrating a willingness to be innovative and creative.

*Upon graduation, students will be expected to:*

- Communicate effectively for a variety of purposes including making compelling arguments and presenting information
- Demonstrate mastery of advanced mathematics and their effective use of mathematical problem-solving skills
- Make decisions and solve problems in independent and collaborative settings
- Meet the fundamental expectations associated with a variety of science and technology careers
- Meet their responsibilities to the natural environment and demonstrate an appreciation of local and global environmental issues
- Value human and cultural differences
- Take responsibility for their own learning behavior
- Actively and ethically contribute to the community
- Demonstrate an appreciation of the arts
- Understand their role in demonstrating civic responsibility and service
- Demonstrate an ability to integrate knowledge, think critically, reason and problem solve
- Demonstrate a knowledge of collective health and wellness issues
- Demonstrate an ability to be innovative and creative
- Apply the scientific method, analyze information and apply solutions
- Demonstrate mastery of information literacy by accessing, evaluating and using information effectively
- Develop and implement appropriate professional and social standards
- Adapt to a changing world

## **STUDENT ENRICHMENT & SUPPORT SYSTEM**

The Science and Technology High School of Southeastern Connecticut is designed to support student learning and success at every level. In coordination with the Personal Education Plan, student enrichment and support is provided in a variety of ways.

1. The Magnet High School Summer Preparatory & Enrichment Programs include:
  - the administration of baseline assessments to determine students' strengths and needs.
  - individualized and small-group plans of action to address student needs
  - exposure to and practice in core competencies and strategies (project-based learning, mathematics, scientific inquiry, technology, teamwork, etc.)
  - exposure to extended classroom experiences and focused service-learning projects
2. Co-teaching models to support the needs of English Language Learners and Special Education students
3. Parent Compact & Parent Workshops supports parent engagement, collaboration and understanding of their children's educational program.
4. Personalized Education Plan (PEP) is an individualized plan that has been developed for each student to address his or her academic profile and specific enrichment and support needs.
5. Student Action Plans are weekly forms to be filled out by the student demonstrating and documenting extra help for classes of which the student is struggling. For example if a student has received a D or F on a progress report that student would be required to fill out these forms to demonstrate that s/he is taking the necessary action to achieve up to his/her academic potential at the STMHS.

## **Parent-Teacher-Student Contract**

The purpose of this contract is to foster the development of a school-parent relationship to help all children achieve the Magnet School's high academic standards. It is the school's responsibility to provide a high quality curriculum and instruction in a supportive and effective environment that enables children to meet the State's student performance standards and the goals of the **Science and Technology Magnet High School (STMHS)**. As part of that commitment, the school must address the importance of communication between parents and teachers on an ongoing basis through the development of *Personal Education Plans* for each student, frequent reports to parents on their child's progress; and reasonable access to staff, opportunities to volunteer and participate in their child's class, and observations of classroom activities.

**Since helping all children achieve high academic standards is our goal, any student in danger of failing or who fails any course is automatically on academic probation. *This means that the student must seek extra help and/or attend after school tutoring sessions until academic status has returned to a passing grade.***

**In addition, failure to comply with the academic expectations or with the behavioral requirements listed in this contract may result in actions by the Director including meetings with the student and parents to discuss the child's desire and commitment to the program. In receiving/signed this contract, you agree to all of the requirements in the contract.**

The staff of the STMHS agree to encourage and support students' learning in this school by doing the following:

- Demonstrating care and concern for each student.
- Respecting cultural, racial, and ethnic differences.
- Providing clear and consistent instruction about how to safely use the materials and tools available to students in the classroom.
- Providing explanations of the standards students are expected to meet to demonstrate learning progress and distributing an outline of the curriculum intended to help them meet those standards.
- Providing quality texts, supplies, and materials that support instruction.
- Making efficient use of academic learning time.
- Letting students know when they are available for extra help to make sure an acceptable academic status is maintained.

**As a Parent**, I will encourage and support my child's learning by doing the following:

- Requiring regular attendance at school.
- **Supporting the school's guidelines as explained in The New London High School Handbook.**
- **Requiring my child to always demonstrate respect for teachers, peers and all other adults at school.**
- **Reinforcing the importance of observing all safety precautions when handling or working with science and technology equipment.**
- Providing a quiet, well-lit study area.
- Establishing a regular time for study.
- Attending parent-teacher conferences.
- Encouraging students to do their best work.
- Setting an example for my child by being a life long learner myself.

Signature \_\_\_\_\_ Date \_\_\_/\_\_\_/\_\_\_

**As a Student**, I will demonstrate that I am a trustworthy and responsible student by being an independent learner who is an active participant in my own learning by doing the following:

- **Reading, accepting and following the student guidelines as outlined in the New London High School Handbook.**
- **Striving to do my best in every class, not just the ones that I like.**
- **Demonstrating by my actions and words respect for teachers, peers, and other adults.**
- **Respecting all school property and taking great care with our science technology building and all of the specialized equipment that I am privileged to use.**
- **Following all safety requirements when using scientific materials or technical equipment.**
- Attending school regularly.
- Bringing pencils, pens, paper, textbooks, and other necessary learning tools to class.
- Participating in classroom activities **and especially by asking questions and seeking additional instruction if needed.**
- Cooperating with parents and teachers.
- Asking for help when needed.

Signature \_\_\_\_\_ Date \_\_\_/\_\_\_/\_\_\_



## Science & Technology Magnet High School Personal Education Plan

Name: \_\_\_\_\_

Date of Plan: \_\_\_\_\_

Also known as: \_\_\_\_\_ Date of birth: \_\_\_\_\_

Person(s) who has/have authority to sign for parental consent: \_\_\_\_\_

Learning Strand: \_\_\_\_\_ Year Group: \_\_\_\_\_

Ethnicity: \_\_\_\_\_ Languages spoken: \_\_\_\_\_

Will an interpreter be required at meetings? Yes/No Who will do it? \_\_\_\_\_

Is this young person an unaccompanied minor? Yes/No

Does this young person have special educational needs? Yes/No

Are there any special health issues? Yes/No Attendance: Abs Tds

Has the school nurse been informed? Yes/No

Does this student need an in-school health plan?

People involved in this PEP:

√ Present

| Title                               | Print Name & Sign Below | Address & Phone Number(s) |  |
|-------------------------------------|-------------------------|---------------------------|--|
| Student                             | _____                   |                           |  |
| Parent                              | _____                   |                           |  |
| School Administrator<br>or Designee | _____                   |                           |  |
| Mentor                              | _____                   |                           |  |
| Social<br>Worker/Team<br>Manager    | _____                   |                           |  |
| Guidance<br>Counselor               | _____                   |                           |  |
| Teacher                             | _____                   |                           |  |
| Other:                              | _____                   |                           |  |

Date Personal Education Plan started: \_\_\_\_\_ Review dates: 

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|

Next Special Education Annual Review:

*(If applicable)*

| <i>Middle School or Junior High School</i> | <i>Dates: From – To</i> | <i>Reasons for Leaving</i> | <i>Assessment results: CMTS, LAS, Other?</i> |
|--|-------------------------|----------------------------|--|
|  |                         |                            |  |

**Data Collection**

| <b>8<sup>th</sup> Grade CMT</b> |                              |                             |                     |                     |
|---------------------------------|------------------------------|-----------------------------|---------------------|---------------------|
| <i>Science</i>                  | <i>Reading Comprehension</i> | <i>Writing</i>              | <i>Mathematics</i>  | <i>Technology</i>   |
|                                 |                              |                             |                     |                     |
| <b>CAPT (Grade 10)</b>          |                              |                             |                     |                     |
| <i>Science</i>                  | <i>Interdisciplinary</i>     | <i>Editing and Revising</i> | <i>Reading</i>      | <i>Mathematics</i>  |
|                                 |                              |                             |                     |                     |
| <b>PSAT</b>                     |                              |                             |                     |                     |
| <i>Mathematics</i>              | <i>Verbal</i>                |                             | <i>Writing</i>      |                     |
|                                 |                              |                             |                     |                     |
| <b>SAT</b>                      |                              |                             |                     |                     |
| <i>Mathematics</i>              | <i>Verbal</i>                |                             | <i>Writing</i>      |                     |
|                                 |                              |                             |                     |                     |
| <b>Other Key Assessments</b>    |                              |                             |                     |                     |
| <i>Assessment 1</i>             | <i>Assessment 2</i>          | <i>Assessment 3</i>         | <i>Assessment 4</i> | <i>Assessment 5</i> |
|                                 |                              |                             |                     |                     |

**Portfolio**

| <i>Grade</i>             | <i>Math</i> | <i>Science</i> | <i>English</i> | <i>Soc Stud</i> | <i>Elective</i> | <i>Elective</i> |
|--------------------------|-------------|----------------|----------------|-----------------|-----------------|-----------------|
| <i>9</i>                 |             |                |                |                 |                 |                 |
| <i>10</i>                |             |                |                |                 |                 |                 |
| <i>11</i>                |             |                |                |                 |                 |                 |
| <i>12</i>                |             |                |                |                 |                 |                 |
| <b>Senior Project</b>    |             |                |                |                 |                 |                 |
| <i>Brief Description</i> |             |                |                |                 |                 |                 |

**Factors affecting educational progress** *(if applicable):*

|  |  |
|--|--|
| Attendance   |  |
| Attitude   |  |
| External Issues  |  |
| Social   |  |
| Local Authorities  |  |
| Changes in   |  |
| <ul style="list-style-type: none"> <li>• School placement</li> </ul>                 |  |
| <ul style="list-style-type: none"> <li>• Care placement</li> </ul>                   |  |
| <ul style="list-style-type: none"> <li>• Social Worker/Guidance Counselor</li> </ul> |  |
| Health issues  |  |
| Other issues   |  |

**Certifications & Accreditations\***

| <i>Subject</i> | <i>Award</i> | <i>Result</i> |
|----------------|--------------|---------------|
|                |              |               |
|                |              |               |
|                |              |               |
|                |              |               |
|                |              |               |
|                |              |               |

|  |  |  |
|--|--|--|
|  |  |  |
|  |  |  |
|  |  |  |

**Record of achievement and success:**

*(after-school clubs, teams etc)*

|   |
|---|
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |
| ☆ |

**Young Person's view of their education:**

What do you like most about learning new things or going to school?

Can you describe some things that you do really well?

When you think of school, is there anything about which you worry?

Is there a teacher or anyone else who really helps you with your education? What is his or her name?

Do you have a group of best friends? What are their names?

Write down your favorite sports or hobbies. Who are your heroes?

What would help you most with your education? Can you say what you would like to happen that is not happening now?

**Review of previous targets/Actions set at last meeting date \_\_\_\_\_**  
*(If appropriate, then mark this section "See attached evaluation sheet")*

| <i>Target/Action</i> | <i>Evaluation/Update</i> | <i>Target/Action Achieved?</i> |
|----------------------|--------------------------|--------------------------------|
|                      |                          |                                |
|                      |                          |                                |
|                      |                          |                                |
|                      |                          |                                |

**What are the key priorities identified for this PEP?**

|                                 |
|---------------------------------|
| Curriculum, key skills          |
| Key stage and other transitions |
| Attendance                      |
| Social skills                   |
| Emotional/ Behavioral           |
| Other                           |

**Educational Targets for this PEP:**

| <i>Target</i> | <i>Strategies/Action plans</i> | <i>Action by</i> |
|---------------|--------------------------------|------------------|
|               |                                |                  |
|               |                                |                  |
|               |                                |                  |
|               |                                |                  |

**Summary of Actions from this meeting:**

| <i>Action</i> | <i>By whom and by when</i> |
|---------------|----------------------------|
|               |                            |
|               |                            |
|               |                            |
|               |                            |

# NOTES: