



# MVTHS--CTE DEPARTMENT

## Health Science Technology Course Descriptions for 2012 – 2013

2/1/2012

### Orientation to Health Occupations

**HE100**

Course ID: 14001A001

The course will expose students to the variety of opportunities available within the health care industry (e.g., such as nursing, therapy, vision and dental care, administrative services, and lab technology) which include classroom and community-based activities. The main purpose of this course is to assist students in further development of their self-concept and in matching personal abilities and interest to a tentative career choice. Course content will provide in-depth information into health occupations careers and trends, the occupational and educational opportunities and the educational, physical, emotional and attitudinal requirements. Basic first aid and CPR are also taught.

Length of course:	1 Semester
Credits per semester	.5
Grade level:	9, 10 (Juniors and seniors will be allowed in the course only if enrollment numbers make this possible. (Juniors will have priority.)
Prerequisite	None

### Principles of Biomedical Sciences (PBS)

**HE150A/B AVC**

Project Lead the Way (PLTW)

Course ID: 14299A001

PLTW Principles of the Biomedical Sciences provides an introduction to this field through “hands-on” projects and problems. Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, hypercholesterolemia, infectious diseases, and medical interventions. 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 included in the curriculum are: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease. Engineering principles such as the design process, feedback loops, fluid dynamics, and the relationship of structure to function will be included where appropriate. The course is designed to provide an overview of all courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses.

Length of course:	1 2 Semester(s)
Credits per semester	1 .5
Grade level:	11, 12 (Mt. Vernon Township H.S. Freshman and sophomores are permitted to take course)
Prerequisite:	A grade of B or above in Geometry or concurrent enrollment in Geometry or higher level math EXPLORE (Math/Science) Score: 17+ PLAN (Math/Science) Score: 19+
Application:	Yes
Class size:	25

### Human Body System (HBS)

**HE160A/B AVC**

Project Lead the Way (PLTW)

Course ID: 14251A001

Students engage in the study of the processes, structures, and interactions of the human body systems. Important concepts in the course include: communication, transport of substances, locomotion, metabolic processes, defense, and protection. The central theme is how the body systems work together to maintain homeostasis and good health. The systems are studied as “parts of a whole,” working together to keep the amazing human machine functioning at an optimal level. Students design experiments, investigate the structures and functions of body systems, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Students work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.

Length of course:	1 2 Semester(s)
Credits per semester	1 .5
Grade level:	11, 12 (Mt. Vernon Township H.S. Sophomores are permitted to take course) AVC Out-of-District – 11, 12
Prerequisite:	Completion of Principles of Biomedical (PBS) with a grade of “C” or better; A grade of B or above in Algebra II or Concurrent enrollment in Algebra II or higher level math EXPLORE (Math/Science) Score: 17+ PLAN (Math/Science) Score: 19+
Application:	Yes
Class size:	25

## Health Occupation

HE300A/B AVC

14002A003

This Health Occupations Core Skill class is open to junior and senior students who have an interest in the health field. The course includes affective, cognitive, and psychomotor skills which are common to most Health Occupations. Students spend time in the classroom learning basic medical terminology, body structure and function, and mastering tasks for various medical occupations. Second semester students will be certified in CPR/First Aid/AED as well as complete the 40-Hour First Responder course. Once completed, students will be eligible to sit for the Illinois state test for licensure. Students will also be rotated through clinical departments such as; x-ray, occupational therapy, physical therapy, laboratory, respiratory therapy, surgery, dietary; medical offices, which include veterinarian, dental, physical medicine; ambulance service, and other related health departments, are also included in the rotation. Student performance, in the clinical setting, is evaluated by the department supervisors and the regular classroom teacher. Final grades are determined by the classroom teacher. It is recommended that the Health Occupations course be taken before the Health Care Aide. Students are responsible for a uniform and white shoes as well as a watch with second hand and black EMS pants.

Length of course:	2 Semesters
Credits per semester	1
Grade level:	11, 12
Prerequisite:	None
Dual Credit	Rend Lake College: OFTC 1280 – Medical Terminology (3 credit hours) —Junior/Senior only
Application:	Yes

## Basic Nursing Assistant Training

HE400A/B AVC

14051A001

The course is composed of a combination of subject matter and experiences designed to perform tasks of individuals receiving nursing services. The student learns those competencies needed to perform as a nurse assistant under the direction of the registered nurse. The units of instruction should include the role of the nurse assistant while covering general health care topics; medical terminology; patients/clients and their environment; special feeding techniques; psychological support and, in long term and terminal illness, death and dying (e.g., chronically ill, children, new mothers, and so on); and all other basic nursing skills. Topics covered typically include normal growth and development; feeding, transporting patients, hygiene, and disease prevention; first aid and CPR; observing and reporting; care of equipment and supplies; doctor, nurse, and patient relationships and roles; procedure policies; medical and professional ethics; and care of various kinds of patients – including long-term care residents. Students will receive a certificate of completion in Basic Nurse Assistant Training upon successful completion of the course.

Students may then apply to take the Nurse Assistant Training examination for certification. Passing this exam is necessary in order to be placed on the registry for the Illinois Department of Public Health as a Certified Nurse Assistant (C.N.A.). The cost of the C.N.A. examination is to be paid by the student. Supplies needed for this course are a watch with second hand, transfer belt, stethoscope, blood pressure cuff, uniform, and white shoes. Students are also required to submit to medical screening and criminal background check.

Length of course:	2 Semesters
Credits per semester	1
Grade level:	11, 12
Prerequisite:	Health Occupation Core Skill recommended
Dual Credit:	Rend Lake College: CNA 1201 – Certified Nursing Assistant (7 credit hours) —Junior/Senior only
Application:	Yes

## Interrelated Cooperative Education

BU500A/B AVC

Course ID: 22153A001

This course is designed for senior students interested in pursuing careers in occupations related to the health care industry. Students are released from school for their paid cooperative education work experience and participate in 200 minutes per week of related classroom instruction. Classroom instruction focuses on providing students with job survival skills, career exploration skills related to the job, as well as improving students' abilities to interact positively with others. For skills related to the job, refer to the skill development course outlines and the task list of the desired occupational program.

A qualified, certified CTE instructor is responsible for supervision. Written training agreements and individual student training plans are developed and agreed upon by the employer, student and coordinator. The coordinator, student and employer assume compliance with federal, state and local laws and regulations.

The course content includes the following broad areas of emphasis: further career education opportunities, planning for the future, job-seeking skills, personal development, human relationships, legal protection and responsibilities, economics and the job, organizations, and job termination. Classroom and worksite instruction is based on the tasks in an occupation.

Length of course:	2 Semesters
Credits per semester	1.5
Grade level:	12
Prerequisite:	Completion of one credit of skill-specific training in an approved CTE program recommended.