

Health Science

Course: **ADVANCED BIOTECHNOLOGY-CAMPUS:ALL (Except JO)**

Course Description: Students enrolled in this course will apply advanced academic knowledge and skills to the emerging fields of biotechnology such as agricultural, medical, regulatory and forensics. Students will have the opportunity to use sophisticated laboratory equipment, perform statistical analysis and practice quality-control techniques. Students will conduct laboratory and field investigations, use scientific methods during investigations and make informed decisions using critical thinking and scientific problem solving. Students study a variety of topics that include structures and functions of cells, nucleic acids, proteins and genetics. Student must pass safety test with 100% mastery. To receive credit in science, students must meet the 40% laboratory and fieldwork requirement.

NEISD # **8342** Credit: 1.0 Term: Full Year

Grade Placement: 11-12

Prerequisites: Biotechnology, Biology and Chemistry

Special Notes:

Course: **ANATOMY & PHYSIOLOGY-CAMPUS:ALL**

Course Description: Students conduct laboratory and field investigations, use scientific methods during investigations and make informed decisions using critical thinking and scientific problem solving. Students study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis. Student must pass safety test with 100% mastery. To receive credit in science, students must meet the 40% laboratory and fieldwork requirement.

NEISD # **3253** Credit: 1.0 Term: Full Year

Grade Placement: 11-12

Prerequisites:

Special Notes:

Course: **BIOTECHNOLOGY-CAMPUS:ALL (Except JO)**

Course Description: This course provides an overview of biotechnology, bioengineering and related fields. Topics include genetics, cell structure, proteins, nucleic acids and the impact of immunological events in biotechnology. Students further study the increasingly important agricultural, environmental, economic and political roles of bioenergy and biological remediation; the roles of nanoscience and nanotechnology in biotechnology medical research; and future trends in biological science and biotechnology. Student must pass safety test with 100% mastery.

NEISD # **8341** Credit: 1.0 Term: Full Year

Grade Placement: 10-12

Prerequisites:

Special Notes:

Course: **COUNSELING AND MENTAL HEALTH-CAMPUS:ALL**

Course Description: Students model the knowledge and skills necessary to pursue a counseling and mental health career through simulated environments. Students are expected to apply knowledge of ethical and legal responsibilities, limitations and the implications of their actions. Professional integrity in counseling and mental health care is dependent on acceptance of ethical and legal responsibilities.

NEISD # **8345** Credit: 1.0 Term: Full Year

Grade Placement: 10-12

Prerequisites:

Special Notes:

Course: **HEALTH SCIENCE (CR)-CAMPUS:ALL**

Course Description: This course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will have hands-on experiences for continued knowledge and skill development. The course may be taught by different methodologies such as clinical rotation and career preparation learning. Student must pass safety test with 100% mastery.

NEISD # **8344** Credit: 2.0 Term: Full Year

Grade Placement: 11-12

Prerequisites: Principles of Health Science

Special Notes:

Course:**HUMAN BODY SYSTEMS (PROJECT LEAD THE WAY)**

Course Description: Students examine the interactions of body systems as they explore identity, communication, power, movement, protection and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.

NEISD # **8350** Credit: 1.0

Term: Full Year

Grade Placement: 10-12

Prerequisites:

Special Notes:

Course:**MEDICAL INTERVENTIONS (PROJECT LEAD THE WAY)**

Course Description: Students investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease. The course is a "How-To" manual for maintaining overall health and homeostasis in the body as students explore: how to prevent and fight infection; how to screen and evaluate the code in human DNA; how to prevent, diagnose and treat cancer; and how to prevail when the organs of the body begin to fail. Lifestyle choices and preventative measures are emphasized throughout the course as well as the important roles scientific thinking and engineering design play in the development of interventions of the future.

NEISD # **8349** Credit: 1.0

Term: Full Year

Grade Placement: 11-12

Prerequisites:

Special Notes:

Course:**MEDICAL MICROBIOLOGY-CAMPUS:ALL**

Course Description: Students explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms and emerging diseases. Student must pass safety test with 100% mastery. To receive credit in science, students must meet the 40% laboratory and fieldwork requirement.

NEISD # **3251** Credit: .05

Term: Semester

Grade Placement: 11-12

Prerequisites:

Special Notes:

Course:**MEDICAL TERMINOLOGY-CAMPUS:ALL**

Course Description: This course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, combining forms, singular and plural forms plus medical abbreviations and acronyms. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology and pathophysiology. Course is recommended for all upper level Health Science courses.

NEISD # **3247** Credit: 0.5

Term: Semester

Grade Placement: 10-12

Prerequisites:

Special Notes:

Course:**PATHOPHYSIOLOGY-CAMPUS:ALL**

Course Description: Students conduct laboratory and field investigations, use scientific methods during investigations and make informed decisions using critical thinking and scientific problem solving. Students study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology. Student must pass safety test with 100% mastery. To receive credit in science, students must meet the 40% laboratory and fieldwork requirement.

NEISD # **3252** Credit: 0.5

Term: Semester

Grade Placement: 11-12

Prerequisites:

Special Notes:

Course:**PRACTICUM IN HEALTH SCIENCE (CNA)-CAMPUS:ALL**

Course Description:This course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience i.e. clinical rotation, CNA, etc. Student must pass safety test with 100% mastery.

NEISD #**8348** Credit: 2.0 Term: Full Year

Grade Placement:11-12

Prerequisites:Health Science and Biology

Special Notes:*Student must provide their own transportation.*

Course:**PRACTICUM IN HEALTH SCIENCE (CR)-CAMPUS:ALL**

Course Description:This course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience i.e. clinical rotation, CNA, etc. Student must pass safety test with 100% mastery.

NEISD # **8346** Credit: 2.0 Term: Full Year

Grade Placement: 12

Prerequisites: Health Science and Biology

Special Notes:

Course:**PRINCIPALS OF BIOMEDICAL SCIENCE (PROJECT LEAD THE WAY)**

Course Description:Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia and infectious diseases. Students also explore the concepts of human medicine and are introduced to research processes and bioinformatics. This course is designed to provide an overview of all the courses in the Biomedical Sciences (Project Lead the Way) program and to lay the scientific foundation necessary for student success in the subsequent courses.

NEISD #**8351** Credit: 1.0 Term: Full Year

Grade Placement: 9-12

Prerequisites:None

Special Notes:

Course:**PRINCIPLES OF HEALTH SCIENCE-CAMPUS:ALL**

Course Description:This course provides an overview of the therapeutic, diagnostic, health informatics, support services and biotechnology research and development systems of the health care industry.

NEISD #**8340** Credit: 1.0 Term: Full Year

Grade Placement: 9-12

Prerequisites:

Special Notes:

Course:**PROBLEMS AND SOLUTIONS I - EMT PROGRAM-CAMPUS:RO**

Course Description: Students develop a project on a topic related to career interests, use scientific methods of investigation to conduct in-depth research, are matched with a mentor from the business or professional community, compile findings and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply and transfer their knowledge, skills and technologies in a variety of settings.

NEISD #**8316** Credit: 1.0 Term: Full Year

Grade Placement: 11-12

Prerequisites:

Special Notes:

Course:**PROBLEMS AND SOLUTIONS II - PHARMACOLOGY JRV-CAMPUS:ALL**

Course Description: This course provides students with the knowledge and skills in the classification and study of pharmacological agents to understand the treatment, care and restoration of clients' health. Students will learn the material to challenge (at their own expense) the Pharmacology Certification Exam upon turning 18 years of age. Students planning to sit for the Pharmacology Certification Exam are advised to take this course during the spring semester

NEISD #**3254** Credit: 1.0 Term: Full Year

Grade Placement: 12

Prerequisites:

Special Notes:

Course:**WORLD HEALTH RESEARCH-CAMPUS:ALL (Except JO)**

Course Description: This course examines major world health problems and emerging technologies as solutions to these medical concerns. The course is designed to improve students' understanding of the cultural, infrastructural, political, educational and technological constraints and inspire ideas for appropriate technological solutions to global medical care issues.

NEISD #**8343**

Credit: 1.0 Term: Full Year

Grade Placement: 11-12

Prerequisites:

Special Notes:
