

Introduction to Biomedical Sciences (INBS)

CTY Course Syllabus

Day	Time	Content	Format
1	Morning	Introduction to Cells and Tissues	<ul style="list-style-type: none"> • Intro to course • Researching cells • Edible Cell Activity
	Afternoon		<ul style="list-style-type: none"> • Observing plant and animal cell slides • Observing various human body cells • Observing own cheek cells
	Evening		<ul style="list-style-type: none"> • Poster of cell using pictures from magazines
2	Morning	Mechanisms of Disease and Body Defenses	<ul style="list-style-type: none"> • Researching mechanisms of disease • Create life-size diagram with body defenses
	Afternoon		<ul style="list-style-type: none"> • Simulated Disease Transmission • HHMI Lecture Series: <i>Exploring Biodiversity: The Search for New Medicines</i>
	Evening		<ul style="list-style-type: none"> • Poisoned Picnic Investigation
3	Morning	Immune System	<ul style="list-style-type: none"> • Lecture • Immune System Process Worksheet • Reading on vaccines • Researching organ in immune system • Jigsaw Activity on diseases
	Afternoon		<ul style="list-style-type: none"> • AIDS Simulation Testing Kit
	Evening		<ul style="list-style-type: none"> • A Case Study Involving Influenza and the Influenza Vaccine • Create story about immune system or • article on antimicrobial resistance and write letter
4	Morning	Circulatory System	<ul style="list-style-type: none"> • Lecture on components of blood • Discussion about blood groups, Rh factors, blue baby disease • Researching parts of heart • Reading ECG's • Case Study - A Case of Thrombocytopenia
	Afternoon		<ul style="list-style-type: none"> • Blood Typing Activity
	Evening		<ul style="list-style-type: none"> • Article on red blood cells • Blood Transfusion Scenarios • Work on group projects

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5	Morning	Circulatory System	<ul style="list-style-type: none"> • Research blood vessels • “You Are A Blood Cell” Activity • Using stethoscopes and blood pressure monitors • Researching diseases • HHMI – Virtual Cardiology Lab • Case Study – Sickle Cell Anemia
	Afternoon		<ul style="list-style-type: none"> • Investigation of fetal pig
	Evening		<ul style="list-style-type: none"> • Circulatory system organs on life-size diagram • “The Doping Dilemma” article and reaction
6	Morning	Nutrition – Digestive System	<ul style="list-style-type: none"> • Researching building blocks of food • Article – Know Your Fats • Case Study – A Light Lunch? • A Case in Calorie Counting • Virtual Nutrition Lab • CDC Article – Childhood Obesity : A Growing Problem and write letter as a parent to child’s school cafeteria
	Afternoon		<ul style="list-style-type: none"> • Food Nutrient Analysis
	Evening		<ul style="list-style-type: none"> • Finish lab questions
7	Morning	Nutrition – Digestive System	<ul style="list-style-type: none"> • Research organs of system • Song/rap/poem about organ • Researching disease • Lecture on diagnostic methods
	Afternoon		<ul style="list-style-type: none"> • Investigation of fetal pig
	Evening		<ul style="list-style-type: none"> • Gastro World
8	Morning	Nervous System	<ul style="list-style-type: none"> • Lecture on structure of neuron and process of action potential • Discussion on types of neurons • Concept map • Research diseases
	Afternoon		<ul style="list-style-type: none"> • Reflex Lab
	Evening		<ul style="list-style-type: none"> • Formal Lab Report • Group Project
9	Morning	Musculo-skeletal System	<ul style="list-style-type: none"> • Computer Lab – 9am-11:30am
	Afternoon		<ul style="list-style-type: none"> • Lecture on different types of muscle tissue • Antagonistic Muscle Activity • Factors Affecting Muscle Effectiveness Lab • Research diseases
	Evening		<ul style="list-style-type: none"> • Skeleton handout • How X-Rays Work Article • Work on group project

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10	Morning	Respiratory System	<ul style="list-style-type: none"> • Research organs of system • Breathing Fitness • Research diseases of system
	Afternoon		<ul style="list-style-type: none"> • Investigation of fetal pig
	Evening		<ul style="list-style-type: none"> • Case Study - Driving Can Be Dangerous to Your Health
11	Morning	Endocrine System	<ul style="list-style-type: none"> • Researching glands • Worksheet: Endocrine, Nervous or Neither? • Researching diseases • Case Study - Chemical Eric
	Afternoon		<ul style="list-style-type: none"> • Reading on Diabetes • Clinical Diagnosis of Diabetes
	Evening		<ul style="list-style-type: none"> • Work on project
12	Morning	Excretory System	<ul style="list-style-type: none"> • Lecture on purpose of system • Research organs • “Don’t Sweat It” article • Researching diseases • Case Study - The Case of the Crying Baby • Surgical vs. Medical Management
	Afternoon		<ul style="list-style-type: none"> • Urine Examination
	Evening		<ul style="list-style-type: none"> • Writing on interactions of body systems • Work on project
13	Morning	Reproductive System	<ul style="list-style-type: none"> • Female Reproductive System lecture and handout • Lecture on female hormones and function • Research components of male reproductive system • Investigation of fetal pig
	Afternoon		<ul style="list-style-type: none"> • Guest Speaker – Organ Donor
	Evening		<ul style="list-style-type: none"> • Research diseases of reproductive system (including STDs/STIs) • Work on projects
14	Morning	Exercise	<ul style="list-style-type: none"> • Presentation of projects
	Afternoon		<ul style="list-style-type: none"> • Post-Assessment • Lecture on benefits of exercise (run by Candice)
	Evening		<ul style="list-style-type: none"> • Exercise Case Studies
15	Morning	Wrap-Up	<ul style="list-style-type: none"> • Wrap-Up