Introduction to Biomedical Science

Course Description

This modular one-year course covers a large variety of fields in biomedicine. Each module is designed to take two to three weeks and provide students with opportunities to develop their public speaking and science literacy skills, as well as learn how to cooperate in a group efficiently and professionally. Topics include but are not limited to: sports medicine, pharmacology, psychology, nutrition, veterinary medicine, bioinstrumentation, biomedical engineering, forensic anthropology, parasitology, and speech pathology. Modules can be selected based on student interest, availability of potential guest speakers, or timing of field trips.

Course Objectives

- Demonstrate an understanding of academic honesty and ethics.
- Demonstrate effective communication skills, through team working, oral presentations, and good written communication.
- Develop and refine skills related to academic research and the effective communication of complex ideas.
- Survey a wide array of options regarding biomedical careers that may be available to a student.

Assessing Performance

Students are assessed by obtaining weekly grades from the following: Grit/Work Ethic Reflections, Lab Reports, Communicative Projects, Group Reports

Modules

Communication, Ethics, Teamwork	**Research and Literacy**	**Animal Science**	**Bioinformatics**
Dentistry	**Ophthalmology**	**Microbiology**	**Parasitology**
Epidemiology	**Nutrition**	**Obstetrics**	**Pharmacology**
Psychology	**Forensics**	**Gerontology**	**Post-Injury Therapies**

Materials

Most modules use typical lab equipment found in science classrooms (beakers, flasks, pipettes, scales, rings and ring stands, graduated cylinders, goggles), but some require specialized equipment. The items below are reusable one-time purchases.

Hardware/Reusable Material	**Recommended Unit**	**Cost/Unit**

Microscope (with 100X objective) with 100 glass slides/cover-slips	1 per 4 students	$210
Laboratory incubator	1 per classroom	$300
Vacuum filtration apparatus	1 per 4 students	$50
Mortar and Pestle	1 per 4 students	$5
Plastic pill bottles	1 per student	$2
Dissection pans	1 per 4 students	$15
Dissection tools	1 per classroom	$110
Bar magnets (pack of 12)	1 per classroom	$15
Cold compresses (packs of 2)	1 per 4 students	$16
Hot compresses	1 per 4 students	$19
Hemostats	1 per 2 students	$3
Consumables		
Various consumables for experiments	1 per student	$20*

INTRODUCTION TO BIOMEDICAL SCIENCES

1. Materials

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*Traditional classroom supplies such as markers, colored pencils, and small item purchases.

2. Required teacher collaborations

   Teachers will communicate with LSU Biomedical pathway instructors via a Google group set up for this purpose.

3. Required administration of course content, pre/post test, and research instruments

   All required materials and instruments will be either posted in a Google drive or their location announced via the Google group for this course.

4. Other

   As this is a project-based learning class, we strongly suggest that each section of the course should be limited to a *maximum* of 30 students. If the course is overloaded with students, they will not receive adequate instruction.