

## Biomedical Sciences



Project Lead the Way Biomedical Sciences gives students a glimpse into the world of biomedicine through computer-based and hands-on activities and projects. This dynamic program uses hands-on, real world problems to engage and challenge students. This program is designed for students who have career interests in biomedical research and biotechnology.

### Transcribed Credit

An articulation agreement with Stevenson University is pending to allow qualified students to apply for college credit based on successful completion of the courses in the program.

### Major Units of Study (1st Year)

#### Honors Principles of Biomedical Sciences

- Human medicine, research processes, and bioinformatics
- Human body systems and various health conditions
- Homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease
- Design process, feedback loops, fluid dynamics, and the relationship of structure to function

#### Honors Human Body Systems

- Human body and its physiology and relationship to human health.
- Examination of body systems at rest and under stress
- Interactions between the various body systems
- Building of systems to monitor body functions using computer software

### Major Units of Study (2nd Year)

#### Honors Medical Intervention

- Medical interventions that extend and improve the quality of life including pharmacology, surgery, prosthetics, rehabilitation, and supportive care
- Design and development of various medical interventions including vascular stents, cochlear implants, and prosthetic limbs.
- Organ transplants and gene therapy
- 3-D imaging software to design and build a model of therapeutic protein.

#### Honors Biomedical Research

- Work as a team to design and construct a solution to an authentic healthcare problem.



# COMPLETER: *Biomedical Science – Project Lead the Way Endorsement*

**CREDITS: 4**

- Guideline for Course Selections
- Refer to Graduation Requirements in the Program of Studies for specific course requirements in each content area

Grade →	9	10	11	12
Exact scheduling depends on student's plan and school's master schedule.	English 9 (1)	English 10 (1)	English 11 (1)	English 12 (1)
	US Government (1)	US History (1)	World History (1)	
	Conceptual Physics (1)	Chemistry (1)	Biology (1)	Chemistry II (1)
	Algebra I / Data Analysis (1)	Intermediate Algebra / Data Analysis (1)	Geometry (1)	Algebra II / Data Analysis (1)
	PE (.5) / Health (.5)		PE (.5) / Financial Literacy (.5)	
	Fine Arts (1)	Foundations of Technology (1)		
	World Language (1)	World Language (1)		
<b>Completer Program Requirements</b>			Honors Principles of Biomed. Sciences (1) Honors Human Body Systems (1)	Honors Medical Interventions (1) Honors Biomedical Research (1)
<b>Program Specific Requirements</b>	A college preparatory math and science course is required each year of high school. See chart above.			
<b>Career Specific Electives</b> (may be taken any year offered after prerequisites have been satisfied)	Human Anatomy & Physiology or Honor Human Anatomy & Physiology (1), Science Research I or Honors Science Research I (1), AP Biology (1), AP Chemistry (1), Technological Issues & Impacts (1), Health II (.5), Issues in American Society (.5), Veterinary Science (1), Probability & Statistics or AP Probability & Statistics (1)			
8 credits possible per year				
<b>Value Added:</b> <b>From:</b>	3 Transcribed credits (pending) Stevenson University			
<b>End of Program Test:</b> <b>Industry:</b> <b>Taken:</b>	To Be Determined Project Lead the Way / Stevenson University To Be Determined			

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