



What is STEAM?

STEAM is an educational approach to learning that uses Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue, and critical thinking.

The end results are students who take thoughtful risks, engage in experiential learning, persist in problem-solving, embrace collaboration, and work through the creative process. These are the innovators, educators, leaders, and learners of the 21st century.

The STEAM Model

STEAM is an integrated approach to learning which requires an intentional connection between standards, assessments and lesson design/implementation.

True STEAM experiences involve two or more standards from Science, Technology, Engineering, Math and the Arts to be taught AND assessed in and through each other. Inquiry, collaboration, and an emphasis on process-based learning are at the heart of the STEAM approach. Utilizing and leveraging the integrity of the arts themselves is essential to an authentic STEAM initiative.

The STEAM Process

STEAM's foundations lie in inquiry, critical thinking, and process-based learning. The entire idea surrounding STEAM lessons and the STEAM approach is that it is based upon questioning and higher levels of critical thinking. Inquiry, curiosity, problem solving, and being creative in the finding of the solutions is at the heart of this approach.

STEAM Pathways

WASD has designed and developed specialized STEAM pathways that will allow students multiple options to acquire science, technology, engineering, arts, and mathematics knowledge and skills that will prepare them for college and/or career in a STEAM field. Through rigorous courses, innovative concepts, technology and collaboration with community partners STEAM pathways will prepare students to meet the needs of post-secondary education and the 21st century workplace.

Students interested in pursuing post-secondary education and/or a career in one of the fields below are encouraged to follow the pathways of course offerings. The *courses offer core content and skills and are recommended to be taken before graduation. Students should elect to take a combination of the elective courses of their intended pathway in addition to the core courses.

COMPUTER SCIENCE	ENGINEERING	BIOMEDICAL	APPLIED ARTS
<i>Courses below offer core content and skills of each pathway and are strongly recommended.</i>			
*Intro to C.S. (504)	*Physical Science II (202 or 203)	*Biology (201, 205, 206, 212, or 213)	*Drawing (618)
*C.S. Games & Apps (505)	*Chemistry (204, 207, 210, or 238)	*Chemistry (204, 207, 210, or 238)	*Computer Art (617 or 618)
*Hon. Software Design (516)	*Physics (208, 209, or 214)	*Anatomy & Phys. (220)	*Intro. To Art (604 or 605)
*AP Java or AP CS Principles (508, 509, or 510)	*Calculus (010, 012, 020, or 021)	*Honors/AP Stats (024 or 025)	*Multimedia I (956)
*Intro. to Engineering	*Intro. to Engineering	*Physics (208, 209, or 214)	*Multimedia II (957)
		Intro. to Engineering	Intro. to Engineering
COMPUTER SCIENCE	ENGINEERING	BIOMEDICAL	APPLIED ARTS
<i>Courses below are to be taken in support of and to enhance the core courses of each pathway.</i>			
AP Java (508 or 509)	Princ. Of Electricity (285)	AP Biology (213)	Mixed Media Craft (622)
Computer Art (617, 618)	Environmental Science (234 or 235)	AP Chemistry (238)	Public Art (620)
Digital Photography (621)	Robotics (520 or 521)	Forensics (232)	Digital Photography (621)
AP C.S. Principles (510)	Computer Aided Drafting (950)	Drawing (618)	Computer Aided Drafting (950)
Honors C.S. Capstone (517)	Drawing (618)	Biotechnology	Multimedia III (958 or 959)
	CAD/CAM	Science Ethics and Contemporary Issues	Techniques of Art (609)
	Chemical Engineering Structural Engineering		CAD/CAM

Courses Highlighted in Yellow are currently offered at the JSBS in 2018-2019.

Course Highlighted in Green is targeted for implementation in 2019-2010.

Courses Highlighted in Grey are under consideration for future implementation.