

Westminster Christian Academy STEM Distinction

1. STEM Major: Track 1 (Math/Science)

- a. 4 honors or AP science courses
- b. 4 honors or AP math courses
- c. 1 PLTW course (e.g., IED, POE, CEA, etc.)
- d. 8 STEM seminars (over the course of four years)
- e. ASE:
 - o 2 Semesters of EDD OR
 - o 80 hours of equivalent applied science experience** OR
 - o 1 semester of EDD and 40 hours of equivalent applied science experience**
 - o the one semester CAD/CAM class is equivalent to one semester of EDD
- f. Attendance at 1 STEM Symposium (not as a presenter)
- g. Presentation at a 2nd STEM Symposium.

2. STEM Major: Track 2 (Math/Science/Engineering)

- a. 4 science courses*
- b. 4 math courses* (*3 of these 8 math & science courses must be honors or AP)
- c. 2 PLTW courses (e.g., IED, POE, CEA, etc.)
- d. 8 STEM seminars (over the course of four years)
- e. ASE:
 - o 2 Semesters of EDD OR
 - o 80 hours of equivalent applied science experience** OR
 - o 1 semester of EDD and 40 hours of equivalent applied science experience**
 - o the one semester CAD/CAM class is equivalent to one semester of EDD
- f. Attendance at 1 STEM Symposium (not as a presenter)
- g. Presentation at a 2nd STEM Symposium

3. STEM Major: Track 3 (Biology)

- a. 4 science courses (must include Honors Biology and AP Biology)
- b. 4 math courses (3 of these must be honors or AP; 1 must be/include Statistics)
- c. 1 PLTW course (e.g., IED, POE, CEA, etc.)
- d. Human Anatomy and Physiology
- e. 8 STEM seminars (over the course of four years)
- f. ASE:
 - o 2 Semesters of EDD elective OR
 - o 80 hours of equivalent applied science experience** OR
 - o 1 semester of EDD and 40 hours of equivalent applied science experience**
 - o the one semester CAD/CAM class is equivalent to one semester of EDD
- g. Attendance at 1 STEM Symposium (not as a presenter)
- h. Presentation at a 2nd STEM Symposium

(STEM Major Track 4 and definitions are on the back)

4. STEM Major: Track 4 (Engineering/Programming)

- a. 3 science courses
- b. 3 math courses
- c. 3 PLTW courses (e.g., IED, POE, CEA, etc.)
- d. 1 year (2 semesters) of computer programming (CAD/CAM, C++, Basic)
- e. 8 STEM seminars (over the course of four years)
- f. ASE:
 - o 2 Semesters of EDD OR
 - o 80 hours of equivalent applied science experience** OR
 - o 1 semester of EDD and 40 hours of equivalent applied science experience**
- g. Attendance at 1 STEM Symposium.
- h. Presentation at a 2nd STEM Symposium

** ASE equivalent: with pre-approval by the Science Department, the following activities qualify as equivalent experience: STARS Program, STEM Internships, Independent STEM related Research, STEM related Summer Camps, Engineering and Science Competitions, FIRST Robotics.

KEY:

ASE	Applied Science Experience (Real-world science experience)
CAD/CAM	Computer Aided Design and Computer Aided Manufacturing (Semester-long class using Siemens NX)
CEA	Civil Engineering and Architecture (a PLTW class)
EDD	Engineering Design and Development (a PLTW capstone Class) (This class is presently called ASR (Applied Scientific Research))
IED	Introduction to Engineering Design (a PLTW class)
PLTW	Project Lead The Way (A national program providing engineering curriculum to high schools)
POE	Principles of Engineering (a PLTW class)
STARS	Students and Teachers as Research Scientists (a summer research program organized by UMSL)
STEM	Science, Technology, Engineering, and Math (describes a general curriculum involving these disciplines)