
Job Description – High School Engineering Teacher (PLTW)

Primary Function: Under the direction of the campus Principal, provides students with engaging learning experiences through Project Lead The Way (PLTW) engineering courses. Facilitates students' intellectual, emotional, physical and social growth by developing their engineering skills, problem-solving abilities, and readiness for college and careers in STEM fields.

Responsibilities/Duties:

Instructional Strategies

- Develops and implements lesson plans aligned with PLTW curriculum and the District's curriculum requirements, showing written evidence of preparation.
- Designs lessons that accommodate diverse student learning styles and promote active, project-based learning.
- Presents engineering and technology content according to PLTW standards, Texas Education Agency guidelines, board policies and administrative regulations.
- Uses appropriate instructional strategies, hands-on activities, and technology tools to enhance learning and reflect students' interests and needs.
- Assesses student learning styles and applies results to tailor instructional methods.
- Collaborates with colleagues and PLTW coordinator to plan and implement instructional goals, and interdisciplinary projects.
- Supervises and supports teacher aides, volunteers, and student helpers in the classroom and lab environments.
- Integrates technology and engineering software to support student learning.

Student Growth and Development

- Guides students in developing engineering design processes, critical thinking, and teamwork skills.
- Regularly evaluates student progress through formal and informal assessments aligned with PLTW benchmarks and provides timely feedback and progress reports.
- Sponsors and supports extracurricular STEM-related activities, clubs, competitions, and events as assigned.
- Serves as a positive role model, promoting the district's mission and the value of STEM education.

Classroom Management and Organization

- Creates and maintains a classroom environment that is conducive to learning and appropriate for the physical, emotional and social development of the students
- Manages student behavior consistent with Student Code of Conduct and student handbook.
- Ensures proper care and maintenance of lab equipment, tools, and instructional materials.
- Assists in the selection of instructional materials, equipment and technology resources aligned with PLTW and engineering standards.

Communication

- Establishes and maintains effective communication with students, parents, colleagues, and administrators regarding students' progress, course expectations, and STEM opportunities.
- Maintains a professional relationship with all stakeholders and communicates information clearly and accurately.

Professional Growth and Development

- Participates actively in PLTW training, workshops, and staff development to maintain certification and enhance instructional skills.
- Stays current with developments in STEM and engineering education, instructional technology, and PLTW program updates.

Policy Implementation

- Keeps informed of and complies with state, district, and school regulations and policies for classroom teachers.
- Maintains required documentation, including students' records, assessment data, and PLTW reporting.
- Attends and participates in faculty meetings and serves on committees as required.

Supervisory Responsibilities

- Supervises assigned teacher aides, student teachers, and lab assistants.

Other

- Demonstrates professionalism, ethics, and responsibility in all duties.
- Serves as a role model for students and staff in attitude and work habits.
- Performs other duties as assigned by the campus principal or district leadership.

Knowledge and Abilities:

Knowledge of:

- PLTW engineering curriculum and standards
- Engineering principles, design processes, and STEM best practices
- Student-centered and project-based instructional strategies
- Communication and interpersonal skills using tact, patience and courtesy
- Lab and safety protocols for engineering classrooms
- Effective use of technology and engineering software
- District and department policies and procedures
- Relevant federal and state laws and requirements

Ability to:

- Instruct and manage a high school engineering classroom and lab
- Establish and maintain cooperative and effective working relationships with others
- Inspire students to engage in STEM learning and careers
- Communicate clearly and professionally, both orally and in writing
- Maintain regular and consistent attendance
- Develop and organize daily operations
- Analyze situations accurately and adopt an effective course of action
- Manage multiple projects and meet deadlines independently

Education/Licenses/Experience: Bachelor's degree from accredited university. Valid Texas teaching certificate with required endorsements for engineering or STEM subjects. Certification or training in PLTW program delivery is preferred or willingness to obtain. Demonstrated

competency in the academic subject area assigned. At least one semester of student teaching, one year of approved internship, or successful participation in an approved alternative certification program.

Working Conditions:

Mental Demands: Self-motivated, perform tasks with little or no supervision; work with frequent interruptions; able to manage multiple complex projects concurrently; maintain emotional control under stress; ability to communicate effectively (verbal and written); coordinate district support functions.

Physical Demands/Environmental Factors: Lifting/carrying - 15-44 pounds; frequent sitting, standing, walking, climbing, stooping/crouching/kneeling, pulling/pushing, reaching; repetitive hand motions; prolonged use of computer and technology; speaking clearly; occasional district-wide, state-wide travel; work occasional irregular hours and prolonged hours.

Calendar and Salary Range: 187 work days. See current hiring pay grade on the Teacher Compensation Plan.

Revised: 9.5.25

The foregoing statements describe the general function and responsibilities assigned to this job and are not an exhaustive list of all responsibilities and duties that may be assigned or skills that may be required.

Employee Signature

Date