

INSTRUCTIONAL SUPPORT SPECIALIST - MATHEMATICS

DEFINITION

Under direction, provide just-in-time, individual and group student tutoring in the full spectrum of mathematical concepts taught at the college; coordinates and leads special topic workshops for students ranging from basic skills to transfer level mathematics; leads and performs highly advanced and technical support duties; collects and reports student participation data; understands and implements effective teaching and learning strategies with a mathematical and growth mindset; assists instructors in preparing for complex learning experiences; serves as a lead worker over student workers; operates and maintains specialized equipment related to the assigned instructional areas; performs complex technical administrative support tasks for faculty and other instructional staff; and performs related work as assigned. This position oversees the math lab, and maintains the equipment and supplies for the mathematics program.

DISTINGUISHING CHARACTERISTICS

This is the advanced and lead technical level class in the Instructional Support Series within the Yosemite Community College District (YCCD). Incumbents in this class provide advanced instructional and administrative support in technically complex laboratory settings and frequently serve as lead workers over multiple complex areas in such settings. Incumbents must possess and utilize highly technical and specialized knowledge of a particular instructional or academic area in order to perform duties and help ensure the safety of students. This class may be distinguished from the lower-level class of Instructional Support Technician because incumbents in that class perform a wide range of complex technical instructional and administrative support duties in science, vocational, engineering, electronics, photography, physical education, or other specialized and technical laboratory environments, but do not typically serve as lead workers in those types of specialized settings. This position is further characterized by supporting the mathematics program and mathematics lab.

SUPERVISION RECEIVED AND EXERCISED

Incumbents in this class work under the direction of a manager or senior manager, receiving occasional supervision while working toward a definite objective that requires use of a wide range of procedures. Incumbents plan and/or determine specific procedures or equipment required to meet assigned objectives and solve non-routine problems, referring only unusual matters to a supervisor. An incumbent in this class does not directly supervise other full-time employees, but may serve as a lead worker by assigning, directing and/or monitoring the work of subordinate full-time employees on a regular basis.

EXAMPLES OF DUTIES (Illustrative Only)

- Receives, inventories, and stores all mathematical supplies and equipment required for the instructional program.
- Assists faculty and other instructional staff by preparing and presenting complex technical materials designed to enhance students' learning processes; participates in the planning and implementation of exercises and/or experiments; sets up and conducts complex instructional exercises as directed; may independently implement and coordinate instructional sessions and activities.
- Provides support and feedback on assignments.
- Conducts specialized workshops to foster student success and a positive mathematical mindset.
- Seeks out sources of demonstration materials and supplies.
- Set ups, disassembles, cleans or replaces instructional materials used in activities and demonstrations such as calculators, protractors, geometric shapes, containers for estimating, scales for measuring weight, laptops with statistical software, 3-D printer, etc.
- Ensures that assigned learning environments are maintained in a safe, clean and orderly condition; monitors the cleaning and organizing of materials; monitors the security of equipment such as a 3-D printer and laptops with statistical software;

coordinates with vendors for repair and maintenance as needed.

- Ensures equipment is stored appropriately and safely.
- Orders and purchases supplies and equipment; contacts and negotiates with vendors to obtain supplies as needed.
- Obtains immediate supervisor approval and direction prior to disposing of unrepairable equipment or lab supplies (including hazardous waste disposal for batteries); exposure to fumes from plastic for the 3-D printer and white board pens
- Develops, explains and demonstrates specialized and complex learning exercises and instructional materials; monitors students in class work procedures; consults with faculty as needed to develop lesson plans.
- Maintains records of materials ordered, issued, used and returned and prepares related reports; maintains inventories to ensure that adequate quantities are available for timely instructional use; maintains student positive attendance records, ensuring that students sign in/sign out; tracks student costs for computer and/or equipment use; maintains student laboratory accounts and submits charges.
- Assists in the development of departmental budgets.
- Instructs and/or tutors individual students and small groups to reinforce and follow up on classroom learning activities; monitors and assists students in drills, practices and study activities as a follow up what was presented during regular classes.
- Reports student progress toward the accomplishment of learning objectives.
- Oversees students tutors working in the mathematics lab
- Maintains libraries and/or inventories of instructional resources and materials; maintains records of materials loaned to students for home study.
- Organizes and presents workshops related to the development of study skills, academic improvement, and other subjects relevant to learning science.
- Coordinates and performs administrative support duties that may require typing, proofreading, filing, checking and recording information.
- Posts information to a computerized and/or manual management information storage and retrieval systems; retrieves and compiles information and prepares complex clerical forms, reports and summaries.
- Operates a variety of computers and/or related equipment pertaining to the assigned academic area; assists students in utilizing specialized computer technology as part of the learning process.
- Performs other related duties as assigned.

TYPICAL WORKING CONDITIONS

- Work is generally performed in a laboratory or other highly technical setting.

MINIMUM QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The knowledge and ability requirements are representative of essential duties. Reasonable accommodation may be made to enable individuals with disabilities to perform the essential functions of the position.

Knowledge of:

- Operations, procedures, goals or objectives of the mathematics program.
- Growth and deficit mindsets and their relevance to learning mathematics
- Methods and techniques of student instruction and tutoring.
- Principles and practices of supervision and leadership.
- Specialized subject matter pertaining to mathematics.
- Modern office, classroom and laboratory procedures and equipment including computers.
- Basic through advanced mathematical and statistical principles and applications.
- Proper English usage, spelling, grammar and punctuation.
- Principles and practices of filing and record keeping.

- Principles of business writing and report preparation.
- Appropriate and effective communication and listening skills.

Ability to:

- Accurately perform a variety of mathematical and statistical techniques.
- Conduct specialized workshops.
- Implement and maintain technology and software specific to supporting mathematics.
- Ability to maintain course management systems and other course related computer programs
- Provide hands-on academic support to students as a supplement to their classroom teaching.
- Prepare laboratories and lessons as requested by the instructor.
- Respond to a variety of requests for assistance from students and instructors.
- Listen effectively and appropriately assess student academic needs.
- Work with students from a wide range of cultural backgrounds, ages and academic abilities.
- Lead and direct the work of subordinate staff.
- Maintain accurate and complete records and files.
- Explain and ensure adherence to laboratory and program procedures, goals and objectives.
- Communicate effectively, both orally and in writing.
- Establish and maintain effective working relationships with those contacted in the course of work.

Licenses and Certificates:

- Depending upon assignment, a valid license to drive in California may be required.

Physical and Mental Standards:

- **Mobility:** ability to sit, walk or stand for extended periods.
- **Dexterity:** fine manipulation sufficient to operate a computer keyboard, handle individual papers, write and take notes, and/or prepare laboratory materials/equipment; must have a full range of motion in the upper extremities.
- **Lifting:** frequently lift, carry, push, pull, or otherwise move objects up to 25 pounds.
- **Visual Requirements:** close vision sufficient to read files, documents, and computer screens and do close-up work; ability to adjust focus frequently.
- **Hearing/Talking:** ability to hear normal speech, speak and hear on the telephone, and speak in person. • Emotional/Psychological Factors: ability to make decisions and concentrate; frequent contact with students, teachers and others, including the public.
- **Other Factors:** Moderate use of equipment with moving and/or sharp parts such as a 3-D printer; moderate use of equipment with moving and/or sharp parts.

Education and Experience:

Any combination of education, experience and/or training that would likely provide the above-required knowledge, skills and abilities is qualifying.

Preferred Education: Bachelor's degree in mathematics, mathematics education, statistic, engineering, or physics OR equivalent.

Typical background patterns that would provide the knowledge, skills and abilities are:

Pattern I

- Experience: Two years equivalent to an Instructional Support Technician at YCCD, performing duties that provided familiarity with strategies for teaching and learning mathematics.

OR Pattern II

- Education: Possession of an associate's degree from an accredited college or university, with course work including

statistics, calculus, and differential equations.

- Experience: Four years performing technical duties that provided familiarity with mathematics.

Special Requirements: n/a

Class Adopted:

Class Amended: