

Job Description

Job Title:	Manager, Mechanical Engineering
Department:	Plant Operations
Reports To:	Director, Design & Construction Services
Jobs Reporting:	Special Projects Engineer, Registered Mechanical Design Engineer/Consultant, Senior Mechanical/Civil Technologist/Designer, Senior Mechanical Technologist/Designer; Mechanical Engineer
Salary Grade:	USG 14
Effective Date:	March 2022

Primary Purpose

This position functions as a technical specialist and manager of the mechanical engineering team in the design and implementation of cost-effective systems and energy conservation solutions for the University campus, facilities, and infrastructure.

University of Waterloo infrastructure comprises of over eight million square feet of space powered by a large 1st Class Central Power plant feeding a sophisticated district energy system connecting over eighty major academic buildings supporting state of the art teaching and ground-breaking research.

Responsibilities will align with the Plant Operations goal of contributing towards providing a safe and accessible, invitingly clean and comfortable, functionally-enriched and well-maintained campus environment through service excellence.

Key Accountabilities

Strategic Planning

- Provides a critical voice and technical leadership (mechanical engineering) in the development of the Campus Infrastructure Master Plan ensuring that the campus needs of tomorrow are incorporated into the plans for the future of UW.
- Provides advice and technical leadership (mechanical engineering) in the development of construction standards to ensure that operational needs of Plant Operations, and long-term vision of the campus are seamlessly coordinated and clearly captured.
- Provides technical advice to the UW Energy Manager on various UW Sustainability and Energy Management initiatives to maximize efforts in Shift: Neutral and reduce Deferred Maintenance.
- Ensures that designs (mechanical engineering) produced by the Design & Construction division are in line with the vision of individual faculties and/or Academic Support Units as well as the overall campus design standards.

Management of Mechanical Design

- Key member of multidisciplinary teams providing leadership on projects from concept design to final commissioning and user handover.
- Key representative of Plant Ops in large mechanical engineering projects.
- Provides advice to the Director, Design and Construction Services whether projects should be done in-house or outsourced to external consultants.
- Provides leadership, quality assurance oversight and technical guidance to the mechanical

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- engineers and technologists within the business unit.
- Oversees the design of projects with a wide range of complexities (Ex. Cutting edge technology and changing industry standards) requiring centrally supported services (heating, cooling, hot/cold domestic water, processed water, HVAC, etc.).
 - Reviews and stamps mechanical drawings for building permit applications, which involves a sign off to assume legal responsibility and liability for permits on behalf of the UW campus
 - Ensures that assigned staff complete design documentation in preparation for requests for contract procurement ensuring that UW procurement policies are met and BPSD requirements addressed.
 - Ensures that assigned staff complete calculations, site investigations, and financial documentation required for change orders.
 - Ensures that assigned staff follow safety processes required by UW, and the Ontario Construction Act.
 - Ensures that all assigned staff keep accurate documentation and financial records.
 - Performs as Owner's representative by meeting Contractors & Consultants during bid procurement of large and complex projects.
 - Supports project managers & coordinators when resolving unexpected site conditions, large change orders, potential delays, commissioning, and warranty claims.
 - Reviews design documentation prepared by outside consultants to ensure compliance with user requirements, UW operational needs, and UW Policies.
 - Represents UW in meetings with government agencies and consultants in regard to project requirements managing long term impact on UW infrastructure.
 - Provides technical leadership to the Energy & Utilities Department in resolving operating and maintenance problems in the area of mechanical equipment and large infrastructure systems to ensure safety, cost efficiency and long-term resiliency.

Project/program management:

- Leads and manages projects through scaled project initiation, planning, execution, and closure phases according to culture and processes, and methodologies defined by UW and Plant Operations Design & Construction.
- Develops, monitors and controls programs through definition, benefit delivery, and closure phases.
- Liaises to establish clear, concise agreed upon project/program objectives/goals/vision, benefits, scope and success criteria.
- Identifies and communicates the impact of project implementation/service interruptions have on teaching/research/strategic initiatives of the UW campus.
- Ensures alignment of outcomes and requirements with university and department strategies and values.
- Creates an environment of shared purpose and collaboration amongst diverse group(s) of team members.
- Motivates and manages project/program team(s).
- Offers strong, effective communication skills to enable facilitation, negotiation, information flow, buy in, and stakeholder engagement.
- Demonstrates accountability to sponsor for visibility, management, and variances within schedule, budget, scope, and quality.
- Demonstrates appropriate responses to others' emotions and actions during difficult situations and conflicts.
- Directs and/or coordinates the work of team members to enable appropriate allocation of resources while accounting for skills, availability, training requirements, and distribution of work.

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- Establishes realistic plans that proactively anticipate and manages risks, issues, tasks, schedules, communications, quality, benefits, procurement, and delivery of solution(s) throughout the project/program life cycle.
- Manages project constraints (schedule, scope, resources), dependencies (internal and external), and priorities.
- Demonstrates strong analysis, problem solving, and conflict resolution skills towards diverse issues and risks.
- Establishes and follows appropriate change processes to enable informed decision making as projects evolve.
- Coaches and liaises to establish strong sponsorship and governance through the establishment of strong relationships with management and applicable senior leadership.
- Removes obstacles for team(s), and escalates to management, governance bodies, and/or senior leadership, when appropriate.
- Monitors and reports progress appropriately to interested and impacted stakeholders.
- Ensures appropriate decision making occurs according to timelines and milestones.
- Facilitates the procurement process, negotiates contracts and statements of work, and ensures vendor compliance.
- Maintains project/program integrity and coherence.
- Builds stakeholder relationships based on trust and integrity.
- Understands and adheres to university policies and procedures as they relate to assigned projects/programs.
- Ensures appropriate representation and/or collaboration on the project with other areas of expertise such as business/process analysis, enterprise architecture, integration stakeholders, and others.

Project recovery

- Engages appropriate stakeholders such as project sponsor, applicable senior leadership, representative of a regulatory body.
- Analyzes projects in trouble through the application of specific analysis and problem-solving skills and expertise to identify issues and offer appropriate recommendations.
- Confidently tackle complex issues with senior leadership, project/program team members, and stakeholders.
- Oversees management of projects in trouble, making appropriate changes to ensure project recovery.
- Orchestrates appropriate change management to overcome resistance and ensure appropriate buy in for changes to recover the project.
- Escalates and facilitates discussions for difficult and often complex decisions to be made to recover the project.
- Resolves complex conflicts that reside within troubled projects and teams.
- Facilitates discussions and educates stakeholders, team members, sponsors and governance bodies on appropriate roles and responsibilities.
- Communicates in a non-judgmental, persuasive manner.

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Staff Management

Responsible for employee relations of support staff reporting to the position, fostering a client-focused, service-oriented work environment while establishing and maintaining good working relationships among support staff.

- Fosters responsiveness, collegiality, continuous improvement, and a high level of customer service.
- Manages work assignment to staff based on skills and project priority supporting over 500 requests annually.
- Advises Director of Design & Construction on staffing requirements.
- Manages staff performance and disciplinary issues consistent with University policy and departmental framework.
- Conducts Annual Performance Appraisals with direct reports and ensures adherence to annual performance planning and review process within the department.
- Ensures that all talent acquisition is carefully planned, includes foresight of departmental needs, is responsive to technological changes affecting the assigned portfolio, and follows University processes and policies.
- Provides and/or assists with providing, training and/or professional development to support staff with respect to approved engineering methods and practices.

Other

- Performs other related duties and responsibilities as assigned and supports departmental activities.

**All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.*

Required Qualifications

Education

- Bachelor's Degree in Mechanical Engineering
- Current Professional Engineering license (P.Eng.) within Ontario

Experience

- The incumbent will have minimum ten (10) years of progressive experience as a licensed professional, with at least five (5) years' experience in a senior leadership role in designing, planning and construction of building mechanical systems within a major institutional sector such as education, post-secondary education, hospital or consulting service industry in Canada.
- Physical Plant design experience within the building construction industry will be considered an asset.
- Extensive knowledge related to applicable codes, building HVAC, automation and mechanical infrastructure systems is essential.

Knowledge/Skills/Abilities

- Demonstrated track record of effective leadership and collaboration with colleagues and direct reports.
- Excellent judgment and strong problem-solving skills, including the ability to understand the financial impact of relevant options
- Excellent communication and interpersonal skills, with a deep commitment to customer service, proven innovative approach to problem solving and an aptitude towards service excellence and responsiveness.

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- Outstanding analytical and time management abilities.
- Strong ethics and diplomacy.
- Strong current knowledge of HVAC design and operation.
- Ability to supervise & review design to ensure safety, code compliance, and operational efficiency.
- Ability to stamp (take legal responsibility) for design work of assigned team.
- Proficiency in the latest version of AutoCAD is an asset.
- Sound understanding of drawing principles and standards.
- Demonstrated track record of design, and implementation of energy conservation and sustainability measures.
- Demonstrated ability to manage complex and high-risk construction projects.
- PMP accreditation is an asset.
- Experience in institutional projects is preferred.
- Proficient in using MSOffice.
- Excellent judgment and strong problem-solving skills, including the ability to understand the financial impact of relevant options
- Excellent communication and interpersonal skills, with a deep commitment to customer service, proven innovative approach to problem solving and an aptitude towards service excellence and responsiveness.
- Candidate must be effective working in cross-functional teams comprised of trades, operators and other technical staff
- Must be flexible and adaptable to changing requirements, and responsive to client needs

Technical

- Intermediate in the following programs: AutoCAD, MS Word, Excel, PowerPoint

Nature and Scope

- **Contacts:** This position comes in contact with a wide variety of internal and external people at all levels of responsibility. Must maintain excellent relationships with all of these people. This requires excellent personal and communication skills.
- **Level of Responsibility:** The position provides leadership, supervision, and technical guidance to direct reports within the mechanical discipline; reviews, approves, and stamps design drawings & documentation as required by Professional Engineers of Ontario.
- **Decision-Making Authority:** Responsible and accountable efficient, cost effective, and safe design of the University mechanical systems.
- **Physical and Sensory Demands:** Minimal physical demands primarily operating within an office environment; project site visits as required.
- **Working Environment:** Team environment in an office-based setting and involving collaboration with all business and operating units within the department and across the University.