

Iowa Department of Administrative Services – Human Resources Enterprise
Job Classification Description

Telecommunications Engineer Senior

Definition

This job classification is used only by the Iowa Communications Network.

Performs advanced engineering work in the end-to-end management of telecommunications systems and networks, including broadband and fiber-optic services; coordinates complex projects and network operations; provides expert consultation on system performance, service delivery, and infrastructure planning; performs related work as required.

The work examples and competencies listed below are for illustrative purposes only and not intended to be the primary basis for position classification decisions.

Work Examples

Leads the design and deployment of complex telecommunications systems, including VoIP and wireless networks.

Designs and maintains hybrid cloud networking solutions to support secure and scalable cloud access.

Manages large-scale telecommunications projects from inception to completion.

Architects, designs, and optimizes complex telecommunications systems and networks. Conducts thorough assessments of current systems to identify areas for improvement and implement innovative solutions.

Optimizes and maintains enterprise-wide routing, switching, and wireless networks to ensure high availability.

Provides technical leadership and mentorship to junior engineers, translating complex technical concepts into understandable solutions.

Serves as a technical mentor and escalation point, ensuring optimal network performance and reliability.

Collaborates with IT leadership, business stakeholders, and vendors to align network strategies with organizational objectives.

Manages vendor relationships and serves as the primary contact for telephony systems.

Develops and maintains comprehensive network documentation, including diagrams, configuration details, and operational procedures.

Competencies Required

Knowledge:

- Telecommunications – Transmission, broadcasting, switching, control, and operation of telecommunications systems.

- Customer and Personal Service – Principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- English Language – The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Engineering and Technology – The practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
- Computers and Electronics – Circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Abilities:

- Written Expression – Communicate information and ideas in writing so others will understand.
- Written Comprehension – Read and understand information and ideas presented in writing.
- Oral Expression – Communicate information and ideas in speaking so others will understand.
- Oral Comprehension – Listen to and understand information and ideas presented through spoken words and sentences.
- Deductive Reasoning – Apply general rules to specific problems to produce answers that make sense.
- Inductive Reasoning – Combine pieces of information to form general rules or conclusions.
- Information Ordering – Arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- Problem Sensitivity – Tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.

Skills:

- Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- Critical Thinking – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Reading Comprehension – Understanding written sentences and paragraphs in work related documents.
- Speaking – Talking to others to convey information effectively.
- Writing – Communicating effectively in writing as appropriate for the needs of the audience.
- Negotiation – Bringing others together and trying to reconcile differences.
- Active Learning – Understanding the implications of new information for both current and future problem-solving and decision-making.
- Judgment and Decision Making – Considering the relative costs and benefits of potential actions to choose the most appropriate one.

- Service Orientation – Actively looking for ways to help people.
- Complex Problem Solving – Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- Quality Control Analysis – Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- Systems Evaluation – Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
- Systems Analysis – Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- Operations Monitoring – Watching gauges, dials, or other indicators to make sure a machine is working properly.

Minimum Qualification Requirements

Applicants must meet at least one of the following minimum requirements to qualify for positions in this job classification:

- 1) Seven years of full-time work experience in technical communications engineering within the telecommunications industry, network communications and application of fiber optic principles, or firewall or Internet management.
- 2) A total of seven years of education and/or full-time experience (as described in number one), where thirty semester hours of accredited college or university coursework in telecommunications, computer networking, civil engineering, or electrical engineering equals one year of full-time experience.
- 3) Graduation from an accredited four-year college or university with a degree in telecommunications, engineering, or a closely related field, and experience equal to three years of full-time work as described in number one.
- 4) Current, continuous experience in the state executive branch that includes one year of full-time work as a Telecommunications Engineer.

Effective date: 12/25 KC