<table>
<thead>
<tr>
<th>Job Family</th>
<th>Engineering</th>
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<th>Involves engineering design, construction and alteration of electrical, mechanical, gaseous and liquid systems in buildings, facilities and other structures. Involves new construction, major alterations and maintenance of physical plant facilities for general purposes. Includes civil, electrical and mechanical engineering specialties.</th>
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<td>Job Function</td>
<td>Professional Engineering</td>
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<tr>
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</table>

**Generic Scope**
Entry-level professional with limited prior experience; learns to use professional concepts to resolve problems of limited scope and complexity; works on assignments that are initially routine in nature, requiring limited judgment and decision making. Employees at this level are expected to acquire the skills and knowledge to perform more advanced work following an agreed upon time in position, through defined training and development planning.

- **Professional who applies acquired job skills, policies, and procedures to complete substantive assignments / projects / tasks of moderate scope and complexity; exercises judgment within defined guidelines and practices to determine appropriate action.**
- **Experienced professional who knows how to apply theory and put it into practice with in-depth understanding of the professional field; independently performs the full range of responsibilities within the function; possesses broad job knowledge; analyzes problems / issues of diverse scope and determines solutions.**
- **Technical leader with a high degree of knowledge in the overall field and recognized expertise in specific areas; problem-solving frequently requires analysis of unique issues / problems without precedent and / or structure. May manage programs that include formulating strategies and administering policies, processes, and resources; functions with a high degree of autonomy.**
- **Recognized organization-wide expert. Has significant impact and influence on organizational policy and program development. Regularly leads projects of critical importance to the organization; these projects carry substantial consequences of success or failure. Directs programs with organization-wide impact (or may have impact beyond the University) that include formulating strategies and administering policies, processes, and resources. Significant barriers to entry exist at this level.**

**Custom Scope**

- **Uses skills and experience to operate within guidelines or in support of a more senior engineer in a professional specialized engineering phase of major construction projects. Performs design engineering work for projects of limited scope, and / or improves design of physical plant engineering systems. Makes recommendations for obtaining solutions to engineering and operational problems.**
- **Uses skills as a seasoned, experienced engineering professional to operate independently in a professional specialized engineering phase of major construction projects, performs design engineering work for projects of limited scope, and / or improves design of physical plant engineering systems. Demonstrates good judgment in selecting methods and techniques for obtaining solutions.**
- **Uses advanced engineering concepts and organizational objectives to plan, organize, and perform the work of professional engineering staff engaged in the design and execution of mid-level to major construction projects, and improving the design of physical plant engineering systems. Regularly works on highly complex issues where analysis of situations or data requires an in-depth evaluation of variable factors. Exercises judgment in selecting methods, techniques and evaluation criteria for obtaining results.**
- **Having wide-ranging experience, recognized as expert in field of engineering specialty. Functions as the originator and champion for major improvements for the systems and utilities related to engineering discipline.**

**Key Resp 01**

- **Supports project engineering activities (civil, electrical or mechanical), for small construction projects, and provides engineering support for new**
- **Functions as project engineer (civil, electrical or mechanical), for a major construction project, including new construction or major alterations.**
- **Works with administration to plan, organize, lead and / or perform the work of professional engineering staff engaged in construction project design**
- **Recommends to the administration, major improvements on the systems and utilities in support of the organization's overall goals and**
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<tr>
<td>Key Resp 02</td>
<td>Works with field personnel to identify and solve operational problems. Provides engineering analysis in support of recommended system upgrades or modifications.</td>
<td>Serves as engineering liaison to coordinate communications between chief architects, chief engineers and engineering staff members.</td>
<td>May represent the officer to whom they are responsible at meetings and conferences involving organization, University, state and federal levels of authority in matters relating to engineering design considerations and financial requirements.</td>
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<td></td>
</tr>
<tr>
<td>Key Resp 03</td>
<td>Works closely with field personnel to identify deferred maintenance needs. Coordinates all tracking and prioritization of upgrades and maintenance.</td>
<td>Coordinates all or most segments of a construction project, from inception to completion. Provides engineering analysis in support of recommended system upgrades or modifications.</td>
<td>Carries significant responsibility for organization's construction projects and programs in coordination with chief architects, chief engineers, contractors and local committees and staff members.</td>
<td>Carries major responsibility for organization's construction projects and programs in coordination with chief architects, chief engineers, contractors and local committees and staff members, as a senior assistant to the Principal Engineer or administrative officer in charge.</td>
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</tr>
<tr>
<td>Key Resp 04</td>
<td>Reviews engineering design development and construction documents to ensure compliance with the specified programs and policies of the organization.</td>
<td>Reviews engineering design development and construction documents to ensure compliance with the specified programs and policies of the organization.</td>
<td>Oversees or performs the review of engineering design development and construction documents to ensure compliance with the specified programs and policies of the organization.</td>
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<tr>
<td>Key Resp 05</td>
<td>Oversees design studies and reports with respect to new and revised concepts of engineering design and construction, for possible application. Reports include approaches, trends, sources and uses.</td>
<td>Provides analysis to improve the design, operation and maintenance features of electrical, mechanical and / or utility systems in a physical plant. Implements related business processes.</td>
<td>Initiates and designs studies and reports with respect to new and revised concepts of engineering design and construction, for possible application. Reports include approaches, trends, sources and uses.</td>
<td>Initiates and designs studies and reports with respect to new and revised concepts of engineering design and construction, for possible application. Reports include approaches, trends, sources and uses.</td>
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</tr>
<tr>
<td>Key Resp 06</td>
<td>Provides professional engineering information and advice to committees consisting of current or prospective occupants in determining building needs and priorities, for projects of limited scope.</td>
<td>Provides professional engineering information and advice to committees consisting of current or prospective occupants in determining building needs and priorities, for projects of limited scope.</td>
<td>Assists the chief engineer in functions such as reviewing organization's building programs, projects and presentations, and provides staff advice.</td>
<td>Principal assistant to the chief engineer in functions such as reviewing organization's building programs, projects and presentations, and provides staff advice. Assists in the funding effort for the recommended improvements.</td>
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</tbody>
</table>
Job Family: Engineering  
Job Function: Professional Engineering  
Category: Professional

**Job Summary**
Involves engineering design, construction and alteration of electrical, mechanical, gaseous and liquid systems in buildings, facilities and other structures. Involves new construction, major alterations and maintenance of physical plant facilities for general purposes. Includes civil, electrical and mechanical engineering specialties.

**Job Level**
- **Entry**
- **Intermediate**
- **Experienced**
- **Advanced**
- **Expert**

### Key Resp 07
Functions as design engineer (civil, electrical or mechanical), for projects of limited scope undertaken by organization's staff, such as: small buildings and structures; minor alterations to large buildings; and utility, drainage and road systems.
Coordinates the services of commissioned engineers, contractors and inspectors in the solution of problems arising during construction.
Directs commissioning engineers, contractors and inspectors in the solution of the most complex problems arising during construction.

### Key Resp 08
Functions as physical plant engineer, concentrating in some particular aspect of the physical planning and construction program or the physical plant operation and maintenance program, where the level of difficulty and volume of work requires professional engineering skills and knowledge.
Provides code interpretations for those legal or regulatory codes related to their discipline.
Serves as technical expert and advisor on design, construction, operation and maintenance of electrical, mechanical, or civil systems. May include campus wide utility systems such as; 21 KV power, telecom, district heating and cooling; municipal level gas, water, sewer, and storm water systems.

### Key Resp 09
Provides direction and guidance to lower level engineers.
May lead a team of engineering professionals.
Leads a team of engineering professionals.
Serves as a key interface for outside engineering consultants specific to their discipline and / or public utility providers for those utilities related to their discipline.

### Education 1
Bachelor's degree in related area and / or equivalent experience / training.
Bachelor's degree in related area and / or equivalent experience / training.
Bachelor's degree in related area and / or equivalent experience / training.
Bachelor's degree in related area and / or equivalent experience / training.

### License 1
Professional engineering license required.
Professional engineering license required.
Professional engineering license required.
Professional engineering license required.
### Job Summary
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Professional Engineering

### Category
Professional

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<tr>
<td>Cert 1</td>
<td></td>
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<td>Certificates covering specialty areas under their discipline.</td>
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<tr>
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<td>Certificates covering specialty areas under their discipline.</td>
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<td>Spec Cond 4</td>
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</table>

### KSA 01
Basic engineering knowledge associated with performing engineering work in a specific area or discipline.
- **Entry**
  - Thorough knowledge associated with independently performing the full range of engineering professional work.
- **Intermediate**
  - Advanced knowledge associated with the planning, design, and construction of engineering systems.
- **Experienced**
  - Expert knowledge associated with the planning, design, and construction of engineering systems.
- **Advanced**
  - Cert 1
  - Cert 2
  - Cert 3
  - Cert 4
  - Spec Cond 1
  - Spec Cond 2
  - Spec Cond 3
  - Spec Cond 4

### KSA 02
Project management skills needed to support completion of design and construction projects.
- **Entry**
  - Ability to work in a collaborative manner; identify challenges and barriers and recommend resolutions.
- **Intermediate**
  - Ability to work in a highly collaborative manner; readily assess complex challenges and barriers and recommend effective resolutions.
- **Experienced**
  - Ability to work in a highly collaborative manner; readily assess complex challenges and barriers and recommend effective resolutions.
- **Advanced**
  - Cert 1
  - Cert 2
  - Cert 3
  - Cert 4
  - Spec Cond 1
  - Spec Cond 2
  - Spec Cond 3
  - Spec Cond 4

### KSA 03
Effective written and verbal communication skills.
- **Entry**
  - Effective written and verbal communication skills.
- **Intermediate**
  - Effective written and verbal communication and presentation skills.
- **Experienced**
  - Advanced communication skills, both written and verbal, to convey complex information in a clear and concise manner.
- **Advanced**
  - Cert 1
  - Cert 2
  - Cert 3
  - Cert 4
  - Spec Cond 1
  - Spec Cond 2
  - Spec Cond 3
  - Spec Cond 4

### KSA 04
Ability to work in a collaborative manner; identify challenges and barriers and recommend resolutions.
- **Entry**
  - Ability to work in a collaborative manner; identify challenges and barriers and recommend resolutions.
- **Intermediate**
  - Demonstrated organizational and decision-making abilities to manage competing priorities.
- **Experienced**
  - Advanced problem solving abilities to apply principles, practices and procedures within discipline to resolve complex issues.
- **Advanced**
  - Cert 1
  - Cert 2
  - Cert 3
  - Cert 4
  - Spec Cond 1
  - Spec Cond 2
  - Spec Cond 3
  - Spec Cond 4

### KSA 05
Organizational and decision-making abilities.
- **Entry**
  - Organizational and decision-making abilities.
- **Intermediate**
  - Strong project management skills needed to ensure high quality and timely completion of design and construction projects.
- **Experienced**
  - Advanced project management skills needed to assume responsibility for both high quality and timely accomplishment of design and construction projects.
- **Advanced**
  - Cert 1
  - Cert 2
  - Cert 3
  - Cert 4
  - Spec Cond 1
  - Spec Cond 2
  - Spec Cond 3
  - Spec Cond 4

### KSA 06
Working knowledge necessary to apply principles, practices and procedures in the completion of assignments.
- **Entry**
  - Working knowledge necessary to apply principles, practices and procedures in the completion of assignments.
- **Intermediate**
  - Thorough knowledge necessary to apply principles, practices and procedures in the completion of assignments.
- **Experienced**
  - Advanced interpersonal and presentation skills.
- **Advanced**
  - Cert 1
  - Cert 2
  - Cert 3
  - Cert 4
  - Spec Cond 1
  - Spec Cond 2
  - Spec Cond 3
  - Spec Cond 4

### KSA 07
Ability to lead and influence others.
- **Entry**
  - Ability to lead and influence others.
- **Intermediate**
  - Demonstrated ability to lead, motivate and influence others.
- **Experienced**
  - Expert interpersonal and presentation skills.
- **Advanced**
  - Cert 1
  - Cert 2
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- Professional Engineering

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### Environment
- Construction sites, physical plant operations, office.

### Career Path

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<td>Professional Engineer 5</td>
<td>Professional Engineer Manager 1</td>
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