



CAREER PATH

# Industrial & Engineering Technology

CAREER CLUSTER

Science, Technology, Engineering and Mathematics

CAREER PATHWAY

Engineering and Technology



## INDUSTRIAL ENGINEER

Design, develop, test, and evaluate integrated systems for managing industrial production processes including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination.

### Knowledge and Skills Needed

In addition to courses required for high school graduation, essential skills and knowledge needed for a career as an industrial engineer are reinforced by taking rigorous and relevant courses, as well as participating in work-based experiences and student organization activities.

*(See the Sample Personal Plan of Study for suggested coursework, activities, and knowledge and skills to pursue in preparation of an occupation in this Career Cluster.)*

### Education Requirements

| Occupation                   | Percent of Missouri employees aged 25 to 44 in the occupation whose highest level of educational attainment is: |              |                         |
|------------------------------|---|--------------|-------------------------|
|                              | High School or Less   | Some College | Bachelor Degree or More |
| Industrial engineers         | 7.6%  | 18.5%        | 73.9%                   |
| Engineers                    | 2.5%  | 16.1%        | 81.4%                   |
| Architecture and engineering | 10.3%   | 31.0%        | 58.6%                   |

Most Common Educational Level: Bachelor's degree

Note: Be sure to learn whether your occupation has a specific requirement for education or licensing. Apprenticeships are available for more than 240 occupations. Visit [www.oa.doleta.gov/bat.cfm](http://www.oa.doleta.gov/bat.cfm)

### National and State Wage Information

| Location      | Pay Period | 2007     |          |               |
|---------------|------------|----------|----------|---------------|
|               |            | Entry*   | Median   | Experienced** |
| United States | Hourly     | \$27.54  | \$34.34  | \$42.38       |
|               | Yearly     | \$57,300 | \$71,400 | \$88,200      |
| Missouri      | Hourly     | \$27.98  | \$33.81  | \$39.88       |
|               | Yearly     | \$58,200 | \$70,300 | \$83,000      |

Based on (\*) lower 25% and (\*\*) upper 25% percentile of wages

### National and State Employment Trends

| Industrial Engineer | Employment |         | Percent Change | Job Openings* |
|---------------------|------------|---------|----------------|---------------|
|                     | 2006       | 2016    |                |               |
| United States       | 201,300    | 242,300 | + 20%          | 8,940         |
| Missouri            | 3,240      | 3,910   | + 21%          | 150           |

\*The estimate for Job Openings includes both turnover that results from people who leave the occupation (e.g. quit, retire, death) and new jobs that are created.

### Educational Opportunities

*Note: This list may not be all inclusive. For more information about Missouri schools and programs, visit [www.dhe.mo.gov](http://www.dhe.mo.gov)*

**East Central College**  
Union, MO  
(636) 583-5193  
[www.eastcentral.edu](http://www.eastcentral.edu)

**Missouri Southern State University**  
Joplin, MO  
(417) 625-9300  
[www.mssu.edu](http://www.mssu.edu)

**Missouri University of Science and Technology**  
Rolla, MO  
(573) 341-4111  
[www.mst.edu](http://www.mst.edu)

**University of Missouri - Columbia**  
Columbia, MO  
(573) 882-2121  
[www.missouri.edu](http://www.missouri.edu)



[www.missouriconnections.org](http://www.missouriconnections.org)

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