

# AG ENGINEERING

AgCareers.com has identified high demand jobs in the agricultural industry. These career profiles are a helpful resource for students and job seekers to explore new roles in the industry, as well as for career educators.

## Construction Foreman/Worker

### JOB OVERVIEW

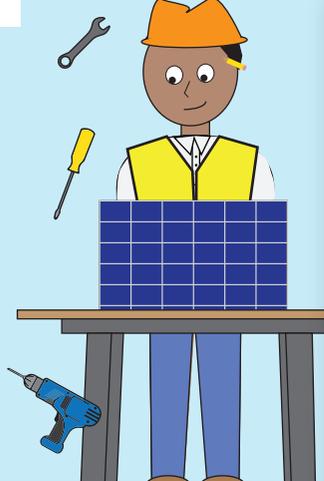
Construct agricultural buildings and structures such as barns, sheds, grain bins, plants, elevators, and more

Perform repairs or service work on the structure or building equipment

Participate in project planning, scope, assessments, layout, and other details

Execute daily management of excavators, concrete crews, framers, electricians, etc.

### JOB OUTLOOK



### EDUCATION NEEDED

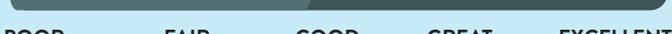
High school diploma; Associate's degree in carpentry, building systems or related preferred

### RECOMMENDED H.S. COURSES

Ag education, welding, industrial technology, computer courses, mathematics

### TYPICAL EMPLOYERS

Agricultural and construction companies, or self-employed



POOR FAIR GOOD GREAT EXCELLENT

## Design Engineer

### JOB OVERVIEW

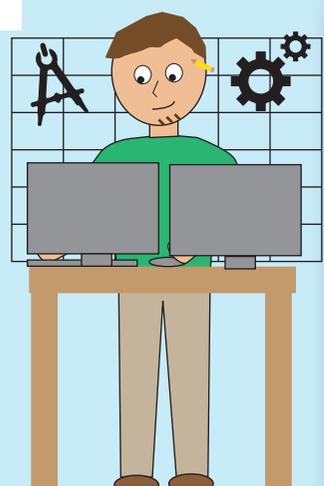
Design & develop agricultural equipment and system products

Serve as a technical resource by participating in design reviews & provide input on new projects

Develop test plans & direct testing of the design

Design and/or select hydraulic, power transmission, and structural components needed to implement design

### JOB OUTLOOK



### EDUCATION NEEDED

Bachelor's degree in agricultural or mechanical engineering

### RECOMMENDED H.S. COURSES

Ag education, ag mechanics, welding, industrial technology, computer courses, advanced mathematics

### TYPICAL EMPLOYERS

Agricultural equipment and systems manufacturers



POOR FAIR GOOD GREAT EXCELLENT

## Mechanical Engineer

### JOB OVERVIEW

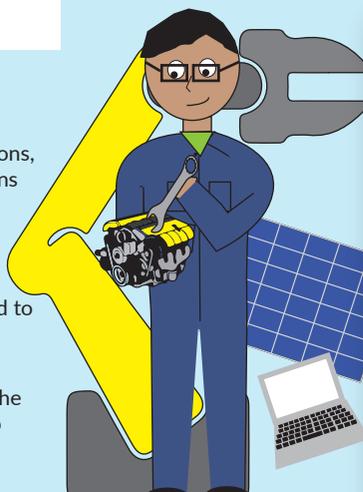
Review & develop mechanical specifications, piping specifications, layouts and troubleshooting plans

Assume maintenance engineer responsibilities

Analyze problems to see how a mechanical device could be used to help solve the problem

Design or redesign mechanical devices, creating blueprints so the device can be built, and develop prototypes

### JOB OUTLOOK



### EDUCATION NEEDED

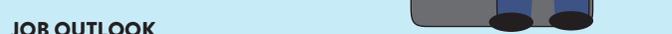
Bachelor's in mechanical engineering

### RECOMMENDED H.S. COURSES

Ag education, ag mechanics, computer courses, mathematics, physics

### TYPICAL EMPLOYERS

Agricultural manufacturers of equipment, robotics, refrigeration, motorized processes, etc.



POOR FAIR GOOD GREAT EXCELLENT

## Mine Engineer

### JOB OVERVIEW

Provide detailed mine planing to a mine operations site

Prepare detailed maps, cross sections, or other drawings from geologic, topographic, cost, production, and other data

Provide drilling & blasting engineering along with engineering management and support for projects as assigned

Maintain accurate records & maps

### JOB OUTLOOK



### EDUCATION NEEDED

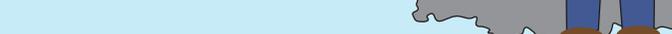
Bachelor's degree in mining, geomatics, or civil engineering

### RECOMMENDED H.S. COURSES

Ag education, natural resources, industrial technology, physics, chemistry, advanced mathematics

### TYPICAL EMPLOYERS

Natural resources, energy, or chemical companies or the government



POOR FAIR GOOD GREAT EXCELLENT

## Packaging Engineer

### JOB OVERVIEW

Design packaging materials for agricultural products & companies

Utilize computer & mechanical design to create packaging products

Actively participate in equipment selection process & evaluation

Execute packaging experiments and plant trials

Ensure that finished product meets quality, safety, and sanitation standards

### JOB OUTLOOK



### EDUCATION NEEDED

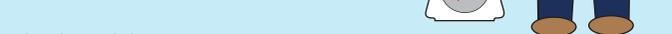
Bachelor's degree in Packaging or Packing Science, Engineering, Logistics, or Food Science

### RECOMMENDED H.S. COURSES

Ag education, physics, computer courses, biology, mathematics

### TYPICAL EMPLOYERS

Food, chemical and seed production companies



POOR FAIR GOOD GREAT EXCELLENT

## Process Engineer

### JOB OVERVIEW

Study the manufacturing & production of a product to look at factors like efficiency, quality, cost reduction & safety

Conduct audits of safety protocol to ensure workers are safe

Lead troubleshooting efforts to resolve process & operational problems

Find improvement opportunities (procedural changes, upgrades, projects, etc.)

### JOB OUTLOOK



### EDUCATION NEEDED

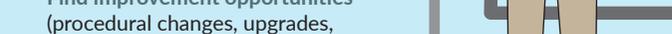
Bachelor's degree in chemical engineering, manufacturing, or industrial engineering

### RECOMMENDED H.S. COURSES

Ag education, computer courses, physics, mathematics

### TYPICAL EMPLOYERS

Various plants from food processing to farm equipment



POOR FAIR GOOD GREAT EXCELLENT

## Process/Continuous Improvement Manager

### JOB OVERVIEW

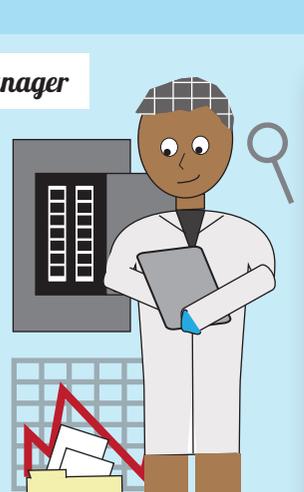
Facilitate process improvement plans within a division or throughout a company

Identify & document business and gap analysis for workflow

Make recommendations for change involving process redesign and business case development

Ensure ongoing coaching, training & development of team members of a productive work environment

### JOB OUTLOOK



### EDUCATION NEEDED

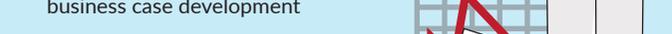
Bachelor's degree in engineering, operation management, or business management

### RECOMMENDED H.S. COURSES

Ag education, a focus on the sciences, business and computer courses, personal finance, advanced mathematics

### TYPICAL EMPLOYERS

Medium to large-scale agricultural companies, manufacturers & research firms



POOR FAIR GOOD GREAT EXCELLENT

PROFESSIONALS IN AG ENGINEERING CAN EXPECT TO EARN

AN AVERAGE OF \$73,900 PER YEAR