College of Engineering
Proposed Catalog Changes
Effective Summer 2017

INDUSTRIAL TECHNOLOGY
1. Add the following courses, to replace previously approved FIRE courses:

**INDT 408 Fire Safety Hazard Analysis (3 cr)**
Collect and apply fire incident data and analysis. Conduct fire analysis. Conduct fire loss investigation. Identify the components that, alone or in combination, form emergency and standby power systems. Understand the dynamics of heating systems. Identify basic components and hazards associated with ‘hot work’ and manufacturing processes dealing with proper storage and handling procedures. Identify the fire hazards of grinding processes. Understand proper design, installation, and maintenance of electrical systems and appliances. Identify common types of refrigeration and associated hazards and their corrective actions. Identify the unique hazard of semiconductor manufacturing.

**Prereq:** Permission

**Available via distance:** Yes

**Geographical Area:** Moscow, CDA, Boise, Idaho Falls

**Rationale:** It is requested to add a new course Fire Safety Hazard Analysis. The course will be offered in Spring 2017 semester, and it is part of a 6 courses (18 credits) Fire Safety certificate.

**INDT 409 Fire Suppression Design and Detection (3 cr)**
Identify the operational characteristics of modern fire alarm systems. Identify the proper applications of automatic fire detectors. Evaluate fire alarm systems, testing and maintenance. Identify the requirements and the benefits of fire alarm systems relating to other systems. Identify and understand the properties, proper use and limitations of non-water systems, halogen and carbon dioxide agents. Identify and understand the water supply system requirements as well as the design criteria for hydraulics for fire protection. Identify the properties and limitations of both dry and wet chemical extinguishing agents. Identify the properties and limitations of various foam extinguishing agents. Identify the properties and proper agents and application techniques for combustible metal fires.

**Prereq:** Permission

**Available via distance:** Yes

**Geographical Area:** Moscow, CDA, Boise, Idaho Falls

**Rationale:** It is requested to add a new course Fire Suppression Design and Detection. The course will be offered in Spring 2017 semester, and it is part of a 6 courses (18 credits) Fire Safety certificate.

**INDT 410 Loss Control (3 cr)**
Initiate and coordinate hazard abatement solutions with building managers, plant personnel in providing the corrective actions for life safety and fire protection deficiencies. Use calculations to identify friction loss. Use calculations in determining fire resistive coatings used in buildings. Identify the hazards of explosion prevention and protection. Understand the precautionary need for various types of air-moving equipment. Identify building construction elements for fire protection. Understand the elements of confinement of fire in buildings. Identify and describe the structural damage factors to be evaluated after a fire. Identify fire hazards of construction, alteration and demolition of buildings.

**Prereq:** Permission

**Available via distance:** Yes  
**Geographical Area:** Moscow, CDA, Boise, Idaho Falls  
**Rationale:** It is requested to add a new course Loss Control. The course will be offered in Spring 2017 semester, and it is part of a 6 courses (18 credits) Fire Safety certificate.

**INDT 411 Facility Fire Hazard Management (3 cr)**

Conduct complex inspection surveys of commercial and residential properties to evaluate physical characteristics of a property and business. Oversee acquisition, installation, operation, maintenance and disposition of building systems. Understand public protection class and municipal and private water systems. Possess knowledge of property fire insurance, building construction and/or field experience in performing fire/property surveys involving detailed analysis. Observe, examine, inspect, gather data and describe all aspects of a property/building and business. Possess knowledge of fire services, environmental hazards, and building construction.

**Prereq:** Permission

**Available via distance:** Yes  
**Geographical Area:** Moscow, CDA, Boise, Idaho Falls  
**Rationale:** It is requested to add a new course Facility Fire Hazard Management. The course was offered in Fall 2016 semester as INDT 404: Special Topics – Facility Fire Hazard Management, and it is part of a 6 courses (18 credits) Fire Safety certificate.

**INDT 412 Structural Designs for Fire and Life Safety (3 cr)**

Identify fire protection in special occupancies. Identify fire protection in warehouse and storage operations. Identify fire protection of electronic equipment. Understand and apply related NFPA standards and company requirements and standards. Evaluate code, law, and regulation compliance of a facility’s operations. Identify safety control systems (PLC controllers, hardwired interlock systems) as it applies to: NFPA 70E, 79, 85 and 86 ANSI/ISA 84.00.01-2003 (IEC 61511) Safety Integrity Levels 1, 2 or 3. Identify principles of human behavior and fire. Identify the chemistry and physics of fire. Identify dynamics of fire growth. Identify challenges to safety in the built environment. Apply fundamentals of safe building design. Identify the local and regional codes and standards for the built environment.

**Prereq:** Permission

**Available via distance:** Yes
Geographical Area: Moscow, CDA, Boise, Idaho Falls

Rationale: It is requested to add a new course Structural Designs for Fire and Life Safety. The course will be offered in Spring 2017 semester, and it is part of a 6 courses (18 credits) Fire Safety certificate.

INDT 413 Community Planning and Design for Fire Protection and Management (3 cr)
Perform pre-incident planning for industrial and commercial facilities. Identify and understand the operations of fire loss prevention and emergency organizations. Evaluate operations of public emergency operations, fire training and communication systems. Identify the use and function of fire emergency services protective clothing and protective equipment. Identify concepts of egress design. Use calculation methods for egress prediction. Develop and manage emergency preparedness procedures and assure all emergency systems and procedures are tested as planned. Identify the elements of the National Incident Management System (NIMS) in relation to emergencies.
Prereq: Permission

Available via distance: Yes

Geographical Area: Moscow, CDA, Boise, Idaho Falls

Rationale: It is requested to add a new course Community Planning and Design for Fire Protection and Management. The course was offered in Fall 2016 semester as INDT 404: Special Topics – Community Planning and Design for Fire Protection and Management, and it is part of a 6 courses (18 credits) Fire Safety certificate.

2. Make the following curricular changes to the Undergraduate Fire Safety Certificate:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRE 406 INDT 408</td>
<td>Fire Safety Hazards Analysis</td>
<td>3 cr</td>
</tr>
<tr>
<td>FIRE 407 INDT 409</td>
<td>Fire Suppression Design and Detection</td>
<td>3 cr</td>
</tr>
<tr>
<td>FIRE 408 INDT 410</td>
<td>Fire Loss Control</td>
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<tr>
<td>FIRE 409 INDT 411</td>
<td>Facility Fire Hazard Management</td>
<td>3 cr</td>
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<tr>
<td>FIRE 410 INDT 412</td>
<td>Structural Designs for Fire and Life Safety</td>
<td>3 cr</td>
</tr>
<tr>
<td>FIRE 411 INDT 413</td>
<td>Community Planning and Design for Fire Protection and Management</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

Available via distance: 100% of curricular requirements can be completed via distance

Geographical area: Moscow, CDA, Boise, Idaho Falls

Rationale: Due to concerns about the new FIRE prefix, Engineering elected to add the proposed courses under INDT instead. Numbers have been reassigned accordingly.