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أكتوبر
2023



فندق رويال مكسيم بالاس كمبلسكي

قمة الصلب العربي الـ 16 والمعرض الدولي للحديد والصلب



تحت رعاية معالي وزير التجارة والصناعة - جمهورية مصر العربية
فرص الاستثمار في صناعة الحديد والصلب في الدول العربية

 ezzsteel
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بالتعاون مع



القاهرة - جمهورية مصر العربية

View on Higher Education

التتمية البشرية والسلامة في صناعة الحديد والصلب

• مدى توافق النظم التعليمية في المعاهد المتخصصة في الحديد والصلب مع المهارات المطلوبة في صناعة الحديد والصلب في الوطن العربي.

• هل نفعل ما يكفي من أجل السلامة الصناعية للمنشآت والاشخاص ؟

• ماهي حصة التدريب في ميزانية شركات الصلب ؟

A look on steel jobs announcements

- Search by key words steel Jobs and a country revealed
- in Egypt
<https://wuzzuf.net/a/Steel-Jobs-in-Egypt>
Egypt 15 Job Announcements: 10 Steel Structure; 1 Sales; 4 Production
- In Saudi Arabia
- 47 Steel Jobs in Saudi Arabia: refractories; QC; electrical and electronic; manufacturing; construction; management; commercial; sales; management; sales; rolling mills; steel fabrication; steel structure.

A look on steel jobs announcements

- Search by key words continuous casting – melt shop- steel Jobs and a country revealed
- Local and regional nill.
- International many.

Samples for Requirements

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Samples for Requirements

Desired Candidate Profile

- At least 15 years of experience in the role of a Steel Yard Manager or similar position.
- Bachelor's degree in civil engineering or related degree.
- NEBOSH IGC certification or equivalent.
- Advanced knowledge of steel, equipment and materials in yard.
- Expertise in safety management systems, risk assessments, and method statements.
- Experience working with material handling equipment.
- Ability to read and interpret technical drawings and schematics.
- Strong communication and interpersonal skills.

Samples for Requirements

MECHANICAL ENGINEER - MAINTENANCE ELECTRICAL ENGINEER -
MAINTENANCE HEAVY EQUIPMENT MECHANIC INDUSTRIAL
ELECTRICIAN (HEAVY EQUIPMENT ELECTRICIAN) MOBILE CRANE
OPERATOR - ARAMCO CARD

All candidates should have Maintenance Experience in Heavy Steel or Relevant Industries. GULF experience preferred.

Responsible for the maintenance of electrical, electronic and automation equipment in the plant. Ensures optimum equipment operational reliability and personnel safety at minimum expenditure thru efficient use of materials, equipment, tools and human resources. Supports mill operation in attaining annual production target and quality of products Ensure compliance to Integrated Management System standards (ISO 9001, ISO 14001 and ISO 45001) requirements.

Samples for Requirements

POSITIONS: MECHANICAL MAINTENANCE TECHNICIAN An experience of not less than three years . Speed and decision-making in maintenance work on tube production lines, slicing and cutting . Proficiency in mechanical maintenance on lines . Creating the necessary reports for maintenance work . The ability to endure and face problems . Take full responsibility in the process of repairing and maintaining faults with the company's maintenance personnel .

TUBE OPERATOR An experience of not less than three years . Working on tube production lines from 19 mm (0.5) inches to 76 mm (2.5) inches . Solving production line problems with high efficiency . Follow up the production line and all workers to avoid any problems . The ability to endure and face problems . Contribute to the process of repairing and maintaining faults with the company's maintenance personnel.

Samples for Requirements

Jobs Description Applicant must have minimum 2 to 3 years of gulf experience as Store Keeper and material handling in Steel Factory Salary : SAR 2200-2500 Accommodation : Company Provided Food : SAR 300 Transportation : Company Provided Duty Hours & OT : 8Hours & OT Industry Steel & Metal Qualification Graduate Min. Experience 2 years Max. Experience 3 years Job Location SAUDI ARABIA.

Samples for Requirements

JOB SUMMARY: Carries out preventive, predictive, breakdown and corrective maintenance of hydraulics, pneumatics, lubrication, compressed air and water piping system and components. Supports maintenance objectives of optimum equipment reliability, availability and safety at minimum cost through excellent workmanship, reduction of delays and efficient use of spare. Supports production goals to meet tonnage targets & produce excellent quality rebars.

RESPONSIBILITIES: Check daily utility piping & hoses for leaks and monitors tank levels, utility system pressures, oil & water flow, temperature and other parameters based on the checklist. Responds to production calls regarding mill lubrication and utility system abnormalities during mill operation. Fabricates and replace damaged, corroded or leaking pipes and hoses.

Samples for Requirements

We are looking for a Metallurgical Engineer to join our team. The Metallurgical/Materials Science Engineer is responsible for providing product, process, and systems support for production processes at our facility. This facility has a pickle line, hot dip galvanizing line, and slitter; supplying the automotive, construction, energy, and agricultural markets. Responsibilities include applying metallurgical and engineering principles to the design, development, and operation of processes and equipment while also contributing to new grade and supplier development. The ideal candidate is a self-motivated problem solver who demonstrates a strong work ethic and enjoys continuous learning to support meeting customer expectations.



Challenges meeting steel industry: Energy and Materials Resources

- Energy:

Energy is a major challenge for heavy metal industries in Egypt nowadays. The depletion and price increase of energy in Egypt as well as worldwide is imposing several threats to the metal industries. The culture and understanding of Energy auditing and energy efficiency is an important activity that should be implemented by all steel producers. This needs establishing a common benchmarking platform for all steel producers.

- Raw materials:

Steel scrap recycling has become a major source for raw material in Egypt as worldwide. The lack of sorted scrap in the Egyptian market is a local problem leading to deviations in final steel analysis in steel workshops, which accordingly leads to production losses and increased production costs.

- Training programmes:

Training and staff development of engineers and technical staff working in steel industries is another challenge that need to be handled. The availability of well-defined job descriptions and training requirements should be worked between educational bodies and the steel manufacturers.

Summary of stakeholders' views on the deficiencies in student experience

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Input from the stakeholders gave various and valid perspectives on the deficiencies in current engineering education.

- **No training for students in work setting/ practices.**
- **Instructor's knowledge is out of date.**
- **Graduates are shocked when they join work as it is not directly related to what they studied.**
- **Graduates not familiar with new software.**
- **Graduates recall what they studied, but unable to apply the knowledge.**
- **Graduates unable to make decisions.**
- **Graduates have no self confidence.**
- **Graduates posse poor communication skills (writing, presentation....etc.)**
- **Graduates unable to operate simple office machines.**
- **Students are not asked to innovate.**
- **Graduates cannot persuade contractors or workers to do the job correctly.**

Earlier efforts resulted

- Since the presence of old state-owned factory Egyptian Hadid & Solb at Helwan they offered internal induction for managers, engineers, foremen, and workers in steel industries.
- Efforts continued since 2013 and resulted Steel producers established **education centers, specialized technical schools** for technical knowledge transfer (**Danieli, Tata steel university, Ezz academy, Steel University.**)

Egyptian Technical Education Reform Pillars (TE 2.0)

- T1- Transformed Quality of Technical Education
- T2- Transformed Relevance of Technical Education by Transferring to Competency-based Curricula (CBC)
- T3- Transformed Teachers through Training and Qualification
- T4- Transformed Schools through Employer Engagement and Work-based Learning (WBL)
- T5- Transformed Image of Technical Education through Changing Social Perception



The message to HE

1. Basic relevant courses metallurgical, mechanical, and electrical engineering.
2. Mechanical Engineering:
3. Electrical Engineering:
4. Industrial Engineering:
5. Metallurgical Engineering: Fundamentals of Physical Metallurgy, Basics of Stress Strain Analysis, Fundamentals of Casting and Solidification, Rolling, etc... & Practical Courses such as; Technology of Continuous Casting, Casting Defects and Causes, Steel Making, Rolling and Possible Defects, etc..
6. Modelling & Simulation.

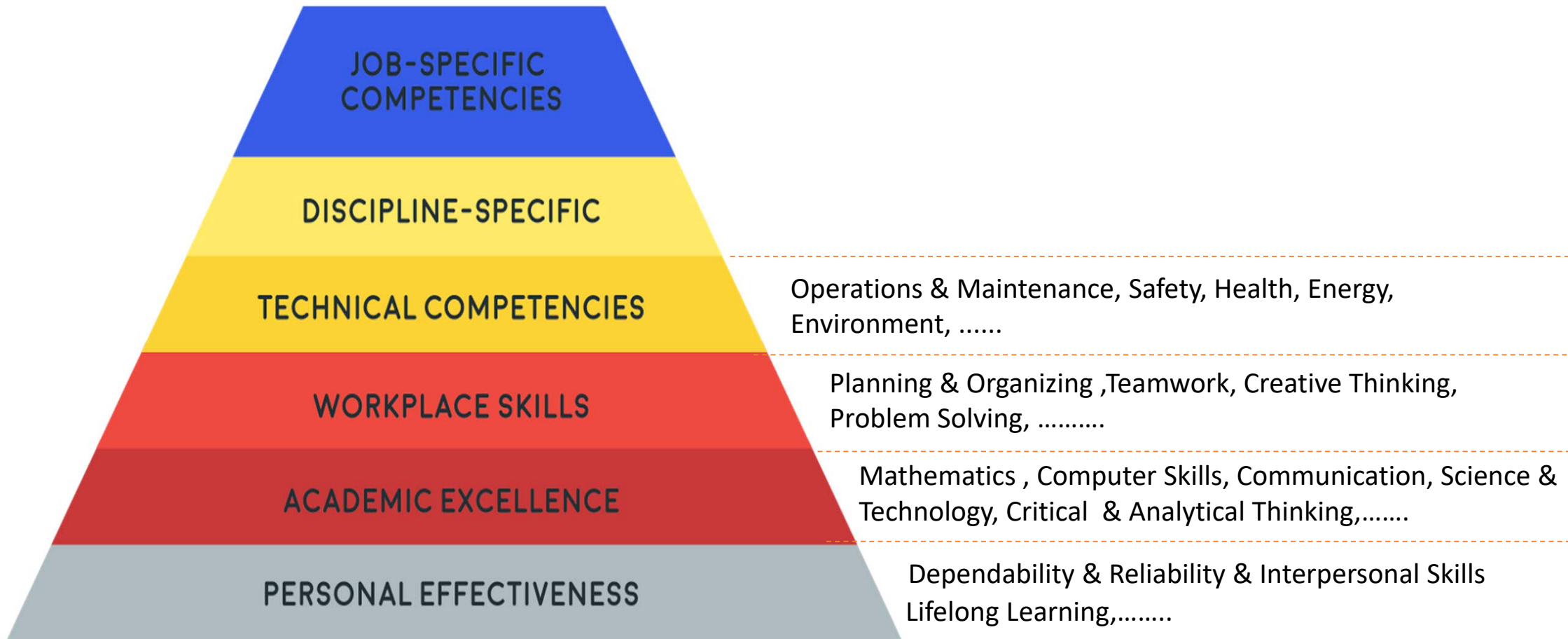
The message to HE

1. The design and development of these courses need mutual cooperation between an experienced staff that has spent suitable time training in the relevant fields and senior engineers that work in these industries.
2. Facilities such as special multi-media and information technology techniques as well as practical training will also assure the success of teaching these courses.
3. Develop **MEng program degrees in Iron and Steelmaking after the implementation of the new 4-years programs bylaws.**

Key Tasks:

1. Updating current post graduate courses and teaching methodologies.
 2. Developing new non-existing short courses for professional training of workers and engineers working in the field of steel industries.
 3. The structure of the updated courses is aimed at including theoretical as well as practical hours.
 4. Creating a written curriculum including all course particulars and illustrations and requirements that must be satisfied by the trainee.
- Providing new teaching materials in which the black board is not the only media and adopting new teaching methodologies by the teaching staff based on new sources for information technology

Engineering Competency Model



Ref. American Association of Engineering Societies