

As a Pathway to a Career in Engineering, Industrial Training

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Abstract

In today's engineering education, students need to learn a lot of theory and get hands-on experience. Traditionally, students receive theoretical engineering education on campus through direct instruction and laboratory experiences. On the other hand, engineering students gain on-the-job experience through hands-on experience or confrontation with real-world situations. This helps them determine whether their industry and skills are compatible. Industrial training gives students the chance to gain the most rewarding and enlightening work experience in related businesses for specialized industries like aerospace, electronics, and manufacturing. This paper examines the students' industrial training experience over a 12-week period of attachment, specifically determining whether the companies were successful in providing relevant engineering workplace experience. Students' industrial training experiences will be discussed, with both positive and negative aspects highlighted. Additionally, this study offers some recommendations for ensuring that businesses implement industrial training programs that meet faculty expectations.

Keywords: Industrial training experience • Businesses implement • Engineering workplace

Introduction

Industrial engineering entails enhancing intricate processes. As an industrial engineer, you'll discover how businesses waste production and replace inefficient systems with more modern ones. It necessitates familiarity with a wide range of fields, the most recent of which is information systems, in addition to a plethora of other more conventional fields of study, such as mechanical engineering and quality control. Since manufacturing procedures have developed into highly complex systems, it is necessary for someone to keep an eye on those systems for ways to make them better. By next week, modern production systems could be out of date due to evolving technology and production methods. Industrial engineers improve systems by solving problems. nParticularly in light of the fact that machines are altering our perspective on production systems, industrial engineering is a promising field of study. Machine learning and robotics are currently being used by industrial engineers to speed up and improve production processes and keep manufacturing systems current. Programs in industrial engineering prepare you to deal with this reality and make use of all engineering students to create novel systems. A solid understanding of computer science gives you a competitive advantage, and engineering disciplines can prepare you for employment in industrial engineering. Coursework that teaches you how to solve problems and come up with creative solutions can help you get started in this growing field [1-3].

Literature Review

It is no longer the production line of your grandfather. Today's production relies heavily on big data and a combination of humans and machines.

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You'll need to know how these things fit together, and edX.org might be a good place to start. With institutions at the forefront of modern production techniques, you will acquire fundamental knowledge of the field. The digital transformation course at KTH can teach you how to navigate the digital age, and the Industrial Biotechnology course at Delft can put that knowledge to use. Brown's introduction to engineering and design or Hong Kong Polytechnic's in-depth examination of how Industry 4.0 is altering the game as a whole are two other options. Regardless of your interest in production, edX has a course that can provide fundamental knowledge and training. Spend some time researching all of the options because making the most of this field will require a comprehensive knowledge base [4,5].

Discussion

Permanent magnet synchronous motor (PMSM) servo drive system has been widely used for industrial sewing machines. The conventional control method is PID, which has some disadvantages such as large overshoot, bad robustness. In this paper, a servo control of the industrial sewing machine system based on the active disturbance rejection control (ADRC) is proposed, which can arrange the transient process, estimate and compensate the uncertain internal and external disturbance. It can highly enhance the dynamic performances of the system. Based on the Matlab/simulink software, the simulation results of the industrial sewing machine control system proved the effectiveness and robustness of the ADRC control strategy.

Conclusion

Students of engineering need to know how production has changed. With knowledge of both the latest technology and how production used to work in the past, industrial engineers can now take on management roles. Quality assurance has the potential to transform the system wherever there is waste. Industrial engineers will see an increase in demand as quality standards rise, particularly for the use of machines and robotics to boost productivity and safety. With courses from edX and its partners, stay ahead of the curve and kickstart your career.

Acknowledgement

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Conflict of Interest

None.

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