



Code	INI381	Prerequisites	INI201
Name	Quality Management I	Co-requisites	None

Credits	Contact Hours
04	44
Categorization of credits	
Math and basic science	
Engineering topic	X
Other	

Coordinator's name	Jessica Pamela Feliz Garrido Marie Sharon Schnabel Mercedes Alfonsina Martínez Martínez
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Text book
Evan, J., Lindsay, W. (2015) Quality Management and Control, (9th Edition). Cengage Learning.
Other supplemental materials
González Ortiz, J. H., Izar Landeta, J.M. (2004). Las 7 herramientas básicas de calidad: descripción de las 7 herramientas estadísticas para mejorar la calidad y aumentar la productividad. Universidad Potosina. Guaspari, J. (1998) Erase una vez una fábrica. Norma Publisher Hay, E.J. (2002) Justo a Tiempo. Bogotá: Norma Publisher Kume. H. (1992) Herramientas estadísticas básicas para el mejoramiento de la calidad. Norma Publisher. Organización Internacional de Normalización (2001) ISO/TR 10013:2001 Directrices para la documentación de sistemas de gestión de la calidad [Data File]. Retrieved from <a href="https://www.iso.org/obp/ui#iso:std:iso:tr:10013:ed-1:v1:es">https://www.iso.org/obp/ui#iso:std:iso:tr:10013:ed-1:v1:es</a> Organización Internacional de Normalización (s.f.) ISO 9000: Sistemas de gestión de la calidad — Fundamentos y vocabulario [Data File]. Retrieved from: <a href="https://www.iso.org/">https://www.iso.org/</a> Pérez Fernández de Velasco, J. (2004). Gestión por procesos (1st ed.). Pozuelo de Alarcón: ESIC. UNIT. Instituto Uruguayo de Normas Técnicas (2009) Herramientas para la Mejora de la Calidad

Description
This subject from the Quality Management module will introduce the concepts and tools necessary for the student to understand the principles of quality management and develop throughout the module the ability to design, structure and administer a management system of quality based on the effective management of processes, their

<p>alignment with the strategy, continuous improvement and quality assurance. Likewise, the student will have the ability to identify, understand and apply tools for modeling, design, analysis, improvement and documentation of the processes of an organization.</p> <p>As a methodology for teaching and learning, the subject will be based on presentations, videos, dynamics and discussions in class, use of software and technology, as well as project-based learning. The effectiveness of said methodology for the development of competencies will be evaluated through a checklist, assessment scales, peer evaluation and objective tests.</p>	
Type of course	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective

Specific goals for the course	
Outcomes of instruction	<ol style="list-style-type: none"> <li>1. Identify the causes of engineering problems using different quality tools.</li> <li>2. Discriminate and apply tools to improve processes according to the problems identified through analysis.</li> <li>3. Demonstrate ability to lead and participate in teams efficiently and effectively.</li> <li>4. Demonstrate openness towards constructive criticism and the recognition of needs for self-improvement, participating in training and feedback activities inside and outside the classroom.</li> <li>5. Establish a relationship between strategy and processes based on the planning, nature and limitations of any organization.</li> <li>6. Prepare standardized documentation, ensuring a unified language of the different elements of a process.</li> </ol>
Student outcomes	<p>SO2. Apply and use the engineering design process to produce solutions that meet specific needs, taking into consideration public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.</p> <p>SO3. Communicate effectively with a variety of audiences.</p> <p>SO4. Recognize ethical and professional responsibilities in engineering situations and makes informed judgments considering the impact of engineering solutions in global, economic, environmental, and social contexts.</p> <p>SO5. Function effectively in a team whose members together provide leadership, create a collaborative and inclusive environment, set goals, plan tasks, and meet objectives.</p>

Topics
Unit I. Quality Management Unit II. Quality Planning and Design Unit III. Process management Unit IV. Quality Tools Unit V. Quality Assurance (Standardization/Documentation of Processes)

