Code	INI388	Prerequisites	INI381 INI382 INI382L
Name	Quality Management II	Co-requisites	None

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

Coordinator's name	Alfonsina Martínez

Text book
Dominican System for Quality (SIDOCAL) Law 166-12. National Congress of the Dominican Republic (2012).
Other supplemental materials
International Organization for Standardization (2015). ISO 9000:2015 Quality management systems — Fundamentals and vocabulary. https://www.iso.org/ International Organization for Standardization (2015). ISO 9001:2015 Quality management systems — Requirements. https://www.iso.org/ International Organization for Standardization (2009). ISO 9004:2009 Management for the sustained success of an organization. Quality management approach. https://www.iso.org/ International Organization for Standardization (2018). ISO 31000:2018 Risk management. Guidelines. https://www.iso.org/ International Organization for Standardization (2011). ISO 19011:2018 Guidelines for the audit of management systems. https://www.iso.org/ QMS auditing topics for ISO 9001:2015. https://committee.iso.org/sites/tc176/home/page/iso-9001-auditing-practices-grou.html

Description
This subject of the Quality Management module will introduce the concepts and tools necessary for the student to understand and collaborate in the implementation of a quality management system; developing in the subject the ability to design, implement, manage, evaluate and improve a quality management system. They will also acquire the ability to identify, understand and apply tools for the implementation of good practices and models of excellence in an organization. Likewise, the student will know the basic concepts of metrology as a basis for the development of future competences.

Type of course	Required ☒ Elective ☐

Specific goals for the course	
Outcomes of instruction	1. Identifies needs and converts them into goals, criteria and design constraints. 2. Generates alternatives supported in engineering sciences, social sciences, economics among others, selecting the best. 3. Create design specifications, prototypes or other communication media. 4. Develop solutions according to the current reality, taking into account ethical and professional responsibility. 5. Evaluates the consequences of the impact of engineering decisions in contexts (economic, environmental and social) at global, regional and local levels. 6. Recognizes copyright in the particular solutions developed. 7. Plan strategies for meeting goals. 8. Interacts with team members, open to the opinions of others. 9. Identifies your role as a member of the work team for the achievement of the objectives. 10. Identifies the need to acquire new knowledge, relating it to a learning strategy. 11. Uses various methods and tools to obtain information relevant to new knowledge.
Student outcomes	SO2. It applies the engineering design process to produce solutions that meet specific needs taking into account public health, safety and welfare, as well as global, cultural, social, environmental and economic factors. SO4. Recognizes ethical and professional responsibilities in engineering situations and makes informed judgments considering the impact of engineering solutions in global, economic, environmental and social contexts. SO5. It works effectively on teams whose members together provide leadership, create a collaborative and inclusive environment, set goals, plan tasks, and meet goals. SO7. Acquire and apply new knowledge as required, using appropriate learning strategies.

Topics
Unit I. Standardization and standardization bodies
Unit II. ISO standards
Unit III. Implementation of the quality management system
Unit IV. ISO 9001 standard
Unit V. Evaluation of management systems
Unit VI. Standardization, improvement and risk management
Unit VII. Models of Excellence
Unit VIII. Introduction to Metrology