

MODULE DESCRIPTION (ANALYTICAL PROGRAM).

1. Module Information Code:	
• Name of the Institution and School	Universidad Autónoma de Nuevo León, School of Medicine
• Name of the Learning Unit	Quality and Safety in Health Care
• Total classroom hours for theory and/or practice.	42 hours
• Total extra classroom hours	48 hours
• Course Modality	Schooled
• Type of academic period in which the module is offered	5th Semester
• Type of Learning Unit in the Curriculum	Compulsory
• Curriculum area:	ACFP-F
• UANL credit points	3
• Date of module creation:	May 21, 2014
• Date of last amendment:	January 10, 2021
• Person(s) responsible for the module design and amendments:	Dr. med. Víctor Manuel Peña Martínez Dr. med. Rodolfo Márquez Martín Dra. Adriana Pérez Garza Dra. Jessica Belinda Escobedo Peña
2. Introduction:	
<p>The learning unit called Quality and Safety in Health Care responds to an imperative need of medical practice that has been mainly influenced by a worldwide trend in both the practice and teaching of medicine that is Safety, both of the patient and the service providers and without forgetting the environment, which in this case focuses on the safety of the facilities.</p> <p>The Learning Unit has been structured in 7 stages that culminate in an Integrated Learning Product (ILP).</p> <p>The first stage "History of quality in health", has the purpose of providing the student with an overview from the historical point of view of what quality</p>	

is, starting with a definition of the essential concepts to understand quality, followed by a tour of those facts and circumstances that have determined the course of quality, starting with quality in industry, then the way in which the concepts were transferred and adapted to the health sector, to finally arrive at the current concepts of quality and safety in patient care.

The next stage refers to "**Leadership and Teamwork**", it focuses on the comparative analysis of different types of leadership, initially describing the concepts of leadership and recognizing its main characteristics, then describes the advantages and disadvantages of different types of leadership to culminate with the influence that leadership has to optimize teamwork.

The third stage refers to "**Quality Models**", which aims to publicize the various quality models that exist, making a comparative emphasis, which describes the main models, appreciating the advantages and disadvantages of each and particularly an analysis of the Mexican model proposed by the General Health Council.

The fourth stage deals with "**Quality tools**", which aims to describe and use the various quality tools with which the daily work is done. It is specified that there are basic tools and more complex tools that are called advanced, in this stage we will focus on the most common and useful for the general practitioner that are the basic tools. Their characteristics, moments and situations in which they are used and mainly the way in which they are interpreted are emphasized.

The fifth stage is called "**Learning from error**", this stage is fundamental because it is where the concepts of safety in patient care gravitate. Firstly, both the conceptual and operational definitions of adverse events are reviewed, this is of great importance; the operational definitions are the daily situations that occur in clinical practice and that make it easier to recognize the situations that lead to an adverse event, this is the basis of the next element which is the system of notification and analysis of adverse events, demonstrating the usefulness of the analysis of them according to their frequency, impact and severity, but fundamentally to understand that from the adequate analysis those improvement actions are derived that will help to decrease the possibility that these events continue to occur in the future. Another important point is to understand that when an adverse event exists, the consequences of the event not only impact the patient, but can also affect the family or service providers.

The sixth stage refers to "**Good Practices**". In this stage, examples of situations, procedures or care protocols that have proven successful from various points of view are analyzed, either by standardizing processes in order to reduce the possibility of error, or by reducing patient morbidity and mortality, in addition to demonstrating that these practices can reduce care costs by optimizing the resources available to organizations.

Finally stage seven, deals with "Continuous Improvement and Project Management", here we summarize the reason for the quality, which corresponds to the concept that everything is cyclical, and that once a problem has been established it has to go through the stages of planning, implementation, monitoring and analysis of results, which result in actions that will later be derived in new plans repeating the cycle indefinitely; during this process methodologies are applied that are called project management.

This learning unit ends with the elaboration of the integrative learning product that refers to the exposure of a continuous quality improvement project.

3. Purpose(s)

The purpose of this learning unit is to establish the basis on which the future physician will develop a culture of quality and patient safety, based on the knowledge, understanding and application of the concepts and tools related to quality, with the aim of adopting them as an integral part of their professional training.

Quality is an intangible concept that should ideally be present as an integral characteristic of all human activities, especially those related to services, such as medicine, which ideally should provide satisfaction not only to the client (patient) but also to the service providers (in this case health personnel), so that efforts should be oriented towards the fact that the physician perceives the concept of quality not as a requirement, a document or as another burden to his/her daily work, but rather that he/she integrates it as a lifestyle or as a way of being.

The Quality and Safety in Care learning unit is therefore closely related to practically all the other learning units that comprise the Medicine Career, mainly in all the clinical units having a transversal relationship with Public Health, and vertically with the following learning units: Medical Sciences I, Surgical Sciences I, Gynecology and Obstetrics, Forensic Medicine, Medical Sciences II, Psychiatry, Family Medicine, Surgical Sciences and Pediatrics.

Likewise, it is closely related to the general and specific competencies of the medical profession since in the search for excellence in the teaching-learning process, the competencies that doctors must acquire, develop and subsequently internalize, which is perhaps the most important of all properties that competencies must have, is precisely that they be carried out in the best possible way in time, space, opportunity and values, which translate into the reason for the existence of this learning unit that is QUALITY.

4. Competences of the graduate profile

a. General competences contributing to this learning unit.

Instrumental skills:

5. Employ logical, critical, creative and proactive thinking to analyze natural and social phenomena that let them make relevant decisions in its area of influence with social responsibility.

8. Use methods and techniques of traditional and cutting-edge research for the development of their academic work, the practice of their profession and the generation of knowledge.

Personal and social interaction skills

9. Maintain an attitude of commitment and respect towards the diversity of social and cultural practices that reaffirm the principle of integration in the local, national and international context with the purpose of promoting environments of peaceful coexistence.

10. Intervene in front of the challenges of contemporary society at the local and global level with a critical attitude and human, academic and professional commitment to help consolidate the general wellness and sustainable development.

11. Practice the values promoted by the UANL: truth, equality, honesty, liberty, solidarity, respect for life and anyone's, peace, respect for nature, integrity, ethics behavior and justice, within their personal and professional environment in order to make a sustainable society.

Integrative skills

13. Take the lead according to social and professional needs to promote relevant social change.

14. Resolve personal and social conflicts in accordance with specific techniques in the academic field and their profession for the proper decision making.

15. Achieve the adaptability required in uncertain professional and social environments of our time to improve living conditions.

b. Specific competences of the graduate profile that contributes to the learning unit

Specific competencies of the Bachelor of Science in Surgery and Midwifery

Professional Clinical Practice

2.- Solves clinical problems through deductive reasoning, interpretation of findings and definition of their nature with the aim of making decisions and determine action principles of the medical practice to follow in a responsible way, impacting individual and collective health.

4.- Manages properly patients with the most frequent diseases from a biopsychosocial perspective, through the application of knowledge, technical procedures and basic diagnostic, based on clinical guides and attention protocols in order to solve the main health problems from the Primary Health Care level from individuals and the community.

6.- Manages human resources, diagnostic interventions, therapeutic modalities, and options on health care according to national standards, promoting a quality culture in attention and guaranteeing patients' security.

Professional Values and Ethics

9.- Respects the patient's integrity keeping the patient's medical information as an essential part of their professional secret in order to preserve his rights.

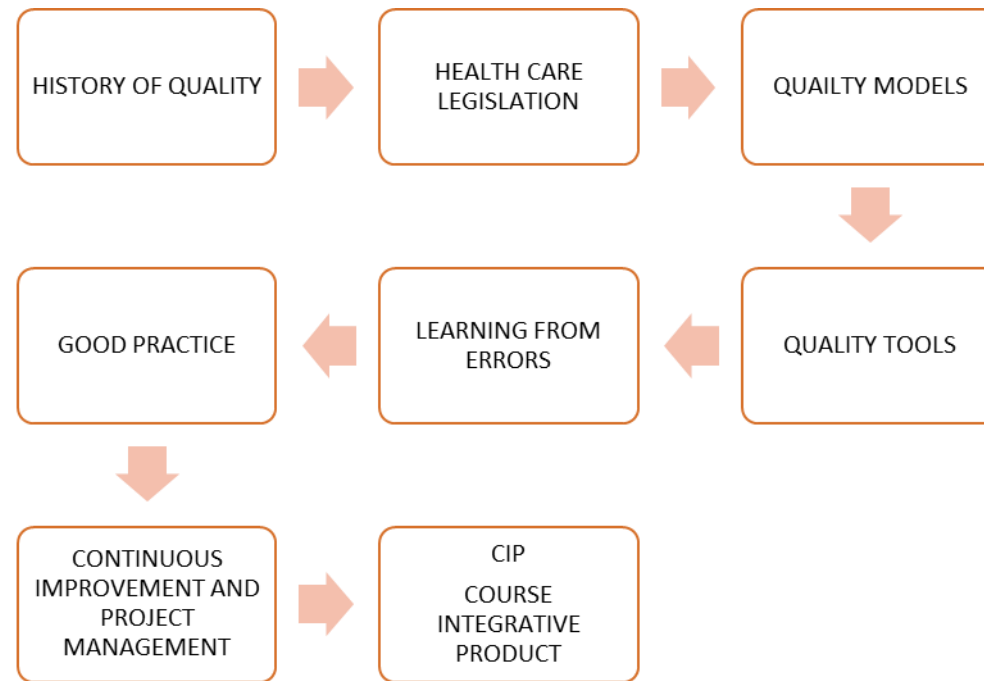
Organizational Work

10.- Promotes an organizational work culture for the health field, acknowledging the multidisciplinary work, respect for institutional policies and the observance of rules in order to contribute to a comprehensive treatment of patients.

Communication

11.- Applies effective communication principles, establishing a respectful and sympathetic relationship with the patient, relatives, the community and other health professionals in order to use the information properly.

5. Course Roadmap:



6. Structuring into stages or phases

Phase 1: History of quality in health.

Component(s) of the competence:

- Identify the types of leadership through the exemplification of different scenarios to demonstrate their influence on teamwork applied in daily clinical practice.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Research about the main contributions of the designated quality gurus and with these, solve a practical case of daily life.	<p>CRITERIA FOR RESEARCH: All sources of information are reliable.</p> <p>TEAMWORK: Knows how to organize effectively with the team.</p> <p>Everyone works actively and with respect and enthusiasm.</p> <p>PROBLEM IDENTIFICATION: Excellent analysis and substantiation of the problem in a clear, precise and concise manner.</p> <p>TOOL USE: Use and/or design the tools properly according</p>	<p>The professor presents the students with the thematic contents established in this stage through an oral communication in which he will maintain a dialogue with the students, stimulating the participation oriented towards the critical analysis of the historical evolution of quality, emphasizing quality in medicine, organizing their dialogue through visual aids.</p> <p>Students meet in teams to conduct research and then apply what they learn to the solution of a case.</p> <p>Students present the essay about the history of quality to their classmates.</p>	<p>Conceptual Content</p> <ul style="list-style-type: none"> History of Quality in Health Definitions Quality in the Industry Quality in health Patient Safety <p>Procedural Content</p> <ul style="list-style-type: none"> Evidence-based research Research Ethics Elaboration of presentations Application of quality concepts. 	<ul style="list-style-type: none"> Classroom of the Faculty of Medicine with multimedia equipment. Textbooks and research articles. Computer, Tablet or Smartphone.

	<p>to the questions to be answered.</p> <p>ANALYSIS OF THE RESULTS AND CONCLUSIONS: Excellent analysis and reflection, it is clear, precise and concise.</p> <p>ORAL EXHIBITION: The whole team participates equally.</p> <p>The exhibition is adjusted to the assigned work.</p> <p>The presentation lasted the established time.</p>	<p>The professor coordinates the presentation of the essays by questioning their development and moderating the discussion with the rest of the group.</p>	<p>Attitudinal Content</p> <ul style="list-style-type: none"> • Teamwork • Respect for colleagues' ideas and concepts. • Avoiding plagiarism of information • Maintain an attitude of empathy towards peer presentations. • Motivation for active participation in class 	
<p>Phase 2: Leadership and teamwork.</p> <p>Component(s) of the competence:</p> <ul style="list-style-type: none"> • Identify the types of leadership through the exemplification of different scenarios to demonstrate their influence on teamwork applied in daily clinical practice. 				
Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Analysis of a film assigned by the professor in which the different types of leadership observed will be identified and this analysis will be reflected in an	<p>INTRODUCTION: Describes generalities of the central theme; making explicit the objective and content of the same.</p> <p>DEVELOPMENT AND SUSTAINABILITY: It bases the findings and</p>	The professor explains in general terms what it is and how it impacts leadership and teamwork in health institutions. He also explains that there are different types of leadership depending on multiple factors or organizational contexts and at the end he assigns	<p>Conceptual Content</p> <ul style="list-style-type: none"> • General concepts. • Effective leadership. • Leadership theories. • Types of leadership. • From groups to teams. 	<ul style="list-style-type: none"> • Classroom of the Faculty of Medicine with multimedia equipment. • Textbooks and research articles.

individual essay.	<p>the elements of the theory, to support the answer to the question-problem.</p> <p>CONCLUSION: The results are based on a reflection of the scientific literature consulted.</p> <p>WRITING: The work has excellent writing (no syntax, spelling, or semantic errors) and uses scientific language.</p> <p>COMPLETE: The work is complete and presents the suggested structure, the design is of high quality.</p>	<p>readings and videos for reading and/or viewing.</p> <p>The students will carry out an analysis based on the videos and readings assigned and organized by teams.</p> <p>Students will conduct a comparative analysis and discussion of the assigned material.</p> <p>The professor moderates the discussion, makes observations and clarifies doubts.</p>	<ul style="list-style-type: none"> Employee motivation. Change management. <p>Procedural Content</p> <ul style="list-style-type: none"> Presentation and analysis of the characteristics of the types of leadership. Discussion of the types and theories of leadership. <p>Attitudinal Content</p> <ul style="list-style-type: none"> Respect for the concepts and opinions expressed by the colleagues during the presentation of the essays and during discussion. 	<ul style="list-style-type: none"> Videos in digital format.
<p>Phase 3: Quality models.</p> <p>Component(s) of the competence:</p>				

- Recognize the different national and international quality models used in health, with emphasis on the national model proposed by the General Health Council in order to integrate it into daily clinical practice.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Research, analysis and presentation on the different models of quality management, focusing on key points such as pros, cons, applicability and focus areas.	<p>LITERATURE ANALYSIS: It adequately describes the main characteristics of each model.</p> <p>CONCLUSION: Makes a reflection on the scientific literature consulted, specifically defining the pros and cons of each model.</p> <p>PRESENTATION OF THE WORK: The work is complete and presents the suggested structure. The work has an excellent writing (without syntax, spelling or semantic mistakes) and uses the scientific language.</p> <p>ORAL PRESENTATION:</p> <ul style="list-style-type: none"> • The whole team participates equally. • The exposure is 	<p>The professor explains that there are different models for implementing and measuring quality depending on multiple factors or organizational contexts, presenting an overview of the main models.</p> <p>Students organized in teams do selected readings assigned by the professor.</p> <p>The students will make a presentation in which an analysis of the assigned model will be made.</p> <p>The professor moderates the discussion, makes observations and clarifies doubts.</p>	<p>Conceptual Content</p> <ul style="list-style-type: none"> • Types of Healthcare Quality Models • General Health Council Model <p>Procedural Content</p> <ul style="list-style-type: none"> • Presentation of the main characteristics of the quality models. • Analysis and discussion of the quality models. • Bibliographic research on quality topics. <p>Attitudinal Content</p> <p>Respect for the concepts and opinions expressed by the colleagues during the presentation of the essays</p>	<ul style="list-style-type: none"> • Classroom of the Faculty of Medicine with multimedia equipment. • Textbooks and research articles.

	adjusted to the assigned time. <ul style="list-style-type: none"> The presentation lasted the established time. 		and during discussion.	
Phase 4: Quality tools. Component(s) of the competence: <ul style="list-style-type: none"> Apply the basic tools of quality, through practical exemplification in order to use them in the analysis of situations and decision making in the clinical environment. 				
Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Analysis of the information using the basic quality tools for the solution of a practical case by means of a root-cause analysis.	BASIC TOOLS DATA COLLECTION TOOL: Design of a tool that captures the data requested in the problem. HISTOGRAM/CONTROL CHART/GRAPH/STRATIFICATIONS: Use the tools according to the results to be expressed, answering the questions requested in the problem. ANALYSIS OF THE RESULTS:	<p>The professor exposes the usefulness in daily clinical practice of the tools used to measure and analyze quality and assigns readings and clinical situations to students for analysis.</p> <p>Students working in teams make presentations about the clinical situations they were assigned by selecting and using the most appropriate quality tools for each situation explaining why each tool was chosen.</p> <p>The professor moderates the discussion, makes observations and clarifies doubts.</p>	Onceptual Content <u>Basic tools</u> <ul style="list-style-type: none"> Check list sheet Pareto Diagram Scatter plot Cause-Effect Diagram Stratified sample Frequency Histogram Process control chart Indicators <u>Advanced tools</u> <ul style="list-style-type: none"> FAME (Failure Mode and Effect Analysis) SWOT (Strengths, 	<ul style="list-style-type: none"> Classroom of the Faculty of Medicine with multimedia equipment. Textbooks and research articles. Clinical situations assigned by the professor.

	<p>It analyses the data and bases its conclusions on the results obtained from the problem.</p> <p>PRESENTATION: Multimedia presentation that expresses and uses the appropriate tools, pleasing to the eye and correct writing and spelling.</p> <p>ORAL PRESENTATION:</p> <ul style="list-style-type: none"> • The whole team participates equally. • The exposure is adjusted to the work assigned. • The presentation lasted the established time. 		<p>Weaknesses, Opportunities and Threats Analysis)</p> <p>Procedural Content</p> <ul style="list-style-type: none"> • Making a multimedia presentation about the health problems assigned by the teacher using the appropriate tool(s) for the particular case. • Analysis and discussion of the presentations, emphasizing the utilities and benefits of each type of tool. <p>Attitudinal Content</p> <ul style="list-style-type: none"> • Respect for the 	
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			concepts and opinions expressed by colleagues during their multimedia presentations	
<p>Phase 5: Learn from the mistake.</p> <p>Component(s) of the competence:</p> <ul style="list-style-type: none"> Establish the different types of events related to patient safety through the analysis of errors in clinical care, in order to identify problems and propose improvements in the processes. 				
Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Analysis of a short video, comparing inappropriate situations (adverse events) and optimal situations about patient safety.	<p>CRITERIA FOR RESEARCH: All sources of information are reliable.</p> <p>IDENTIFICATION OF THE PROBLEM OR SITUATION: Analyzes the problem in a clear, precise and concise way.</p>	<p>The professor exposes the importance of medical error, emphasizing its implications for both the patient and the health care team, including the legal ones, and assigns students readings related to the topic of medical error.</p> <p>Students will discuss the readings which will be</p>	<p>Conceptual Content</p> <ul style="list-style-type: none"> Concepts related to medical error (adverse events) Notification of medical error Analysis of the medical error. 	<ul style="list-style-type: none"> Classroom of the Faculty of Medicine with multimedia equipment. Textbooks and research articles. Clinical situations

	<p>GUIDED BY GENERIC CAUSES: Use and/or design the tools appropriately according to the questions to be answered.</p> <p>ANALYSES THE PROBLEM FROM EACH SPINE: Analyses the problem of each major / secondary spine in a clear, precise and concise way.</p> <p>FINISHED THE DIAGRAM, ANALYSES THE CAUSES OBTAINED AND DETERMINES IN WHICH TO ACT: Analyses the problem in a clear, precise and concise way.</p>	<p>moderated by the professor.</p> <p>The professor shows a video to the students showing a daily clinical situation where a chain of situations culminating in a sentinel event takes place.</p> <p>Students organized in work teams will analyze the video and discuss it in class.</p>	<ul style="list-style-type: none"> Second victim <p>Procedural Content</p> <ul style="list-style-type: none"> Analysis and discussion of the video projected by the professor emphasizing that although the error is produced by human beings, they depend more on processes than on people. <p>Attitudinal Content</p> <ul style="list-style-type: none"> Respect for the concepts and opinions expressed by colleagues during their participation 	<p>assigned by the professor.</p>
<p>Phase 6: Good practices.</p> <p>Component(s) of the competence:</p> <ul style="list-style-type: none"> Establish the importance of international good practices in patient safety considering the context of local clinical practice in order to demonstrate the impact of their application. 				
Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources

<p>Designing a Good Practice Evaluation Tool from a Clinical Situation.</p>	<p>CRITERIA FOR RESEARCH: All sources of information are reliable.</p> <p>TEAMWORK:</p> <ul style="list-style-type: none"> • Knows how to organize effectively with the team. • Everyone works actively and with respect and enthusiasm. <p>PROBLEM ANALYSIS: Analyzes the problem of the environment to choose a good practice.</p> <p>USE OF THE TOOLS: Use and/or design the appropriate tool to evaluate a good practice that already exists or that is to be implemented.</p> <p>ANALYSIS OF RESULTS AND CONCLUSIONS: Analyses the data and bases its conclusions on the results obtained from the problem.</p>	<p>The Professor makes a presentation that focuses on pointing out that there are different ways to perform or solve everyday situations in clinical practice, but that some of them have been shown through scientific evidence to be better than others.</p> <p>Students analyze assigned readings and conduct discussion on topics moderated by the professor.</p> <p>Students organized in work teams will design some tool to measure and evaluate a good clinical practice.</p> <p>The professor moderates the presentations, makes observations and clarifies doubts.</p>	<p>Conceptual Content</p> <ul style="list-style-type: none"> • Basic Patient Safety Actions (International Patient Safety Goals) • Continuity of Care (SBAR) • Safe Medication • Quality Clinical Record • Prevention and control of infections. <p>Procedural Content</p> <ul style="list-style-type: none"> • Making a multimedia presentation about the tool or tools designed by students for the monitoring and evaluation of a good clinical practice. • Analysis and discussion of the presentations, emphasizing the impact that good practices 	<ul style="list-style-type: none"> • Classroom of the Faculty of Medicine with multimedia equipment. • Textbooks and research articles. • Clinical situations assigned by the professor.
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	<p>PRESENTATION: Presentation that expresses and uses the appropriate tools, pleasing to the eye and correct writing and spelling.</p> <p>ORAL EXHIBITION:</p> <ul style="list-style-type: none"> • The whole team participates equally. • The exhibition is adjusted to the assigned work. • The presentation lasted the assigned time. 		<p>have, by means of scientific demonstration through the monitoring and evaluation tools.</p> <p>Attitudinal Content</p> <ul style="list-style-type: none"> • Respect for the concepts and opinions expressed by colleagues during their multimedia presentations 	
<p>Phase 7: Continuous improvement and project management.</p> <p>Component(s) of the competence:</p> <p>Apply the concepts of project management through the analysis of problematic situations in the clinical field in order to propose projects on continuous quality improvement.</p>				
Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Elaboration of the design and presentation of	<p>PROBLEM ANALYSIS: Analyzes the problem of the environment to</p>	The Professor will explain to the students the objective, scope and elements of which	<p>Conceptual Content</p> <ul style="list-style-type: none"> • Improvement Cycles 	<ul style="list-style-type: none"> • Classroom of the Faculty of Medicine with

indicators.	<p>choose a good practice or problem to be measured.</p> <p>USE OF DESIGN METHODOLOGY: Design the indicator following the methodology exposed in class (Name, problem detected, description, objective, scope, method of obtaining, formula, responsible).</p> <p>ANALYSIS OF RESULTS AND CONCLUSIONS: Analyses the data and bases its conclusions on the results obtained.</p> <p>ORAL EXHIBITION:</p> <ul style="list-style-type: none"> • The whole team participates equally. • The exhibition is adjusted to the assigned work. • The presentation lasted the assigned time. 	<p>a project of continuous quality improvement is composed, recommending selected readings which will be analyzed and discussed by the students.</p> <p>Students discuss how to manage a continuous improvement project, focusing mainly on the elements that make up the quality project.</p> <p>Students organized in work teams will carry out a quality improvement project about some problem identified in the daily clinical practice.</p> <p>The professor moderates the presentation of the projects, makes observations and clarifies doubts.</p>	<ul style="list-style-type: none"> • Project Management • Health Indicators <p>Procedural Content</p> <ul style="list-style-type: none"> • Carrying out a quality improvement project which will be presented in written form and in multimedia format. • Analysis and discussion of the presentations, emphasizing the relevance of each of the elements that make up the project. <p>Attitudinal Content</p> <ul style="list-style-type: none"> • Respect for the concepts and opinions expressed by colleagues during their multimedia 	<p>multimedia equipment.</p> <ul style="list-style-type: none"> • Textbooks and research articles.
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			presentations	
7. Summative Evaluation:				
Evidence	Solution of a practical case using the different methodologies proposed by the main characters in the field of quality.			8.3
	Presentation about the different quality models, focusing on key points, pro, cons, application and determined areas.			8.3
	Use of basic quality tools to analyze information.			8.3
	Cause analysis of a video presented in class.			8.3
	Design of a tool to evaluate a good practice of a clinical situation			8.3
	Design of an indicator to measure the progress of quality improvement project.			8.5
Exams	Final exam			30
CIP	Oral presentation of a Continuous Improvement Project			20
Total				100
8. Course Integrative Product				
<p>The Integrator Project of the Quality and Security in Care of Health, consists of carrying out an Improvement Project in an individual way, related to some need, risk or problem detected in the hospital or health care environment, using the knowledge acquired during the whole semester in this matter and based on good practices published in some scientific article.</p>				
<p>The elements specified in the attached Word document will be developed and a Power Point presentation will be elaborated summarizing the content of the project for its presentation in class.</p>				

9. References

- a) http://www.csg.gob.mx/descargas/pdf/certificacion-establecimientos/modelo_de_seguridad/hospitales/Estandares-Hospitales-Edicion2018.pdf
- b) Calidad y Seguridad en la Atención del Paciente. Ed. UANL. 2014.
- c) To err is Human: Building a Safer Health System. Linda T. Kohn, Janet M. Corrigan, and Molla S. Donaldson, Editors Committee on Quality of Health Care in America Institute Of Medicine National Academy Press. Washington, D.C.2000.
- d) The Wrong Patient, Mark R. Chassin, MD, MPP, MPH, and Elise C. Becher, MD, MA*. Ann Intern Med. 2002;136:826-833.
- e) Unexpected Hypoglycemia in a Critically Ill Patient. David W. Bates, MD, MSc. Ann Intern Med. 2002;137:110-116.
- f) Hospital-Onset Infections: A Patient Safety Issue. Julie Louise Gerberding, MD, MPH. Ann Intern Med. 2002;137:665-670.
- g) Advance Care Planning for Fatal Chronic Illness: Avoiding Commonplace Errors and Unwarranted Suffering. Joanne Lynn, MD, MA, MS, and Nathan E. Goldstein, MD*. Ann Intern Med. 2003;138:812-818.
- h) Fumbled Handoffs: One Dropped Ball after Another. Tejal K. Gandhi, MD, MPH. Ann Intern Med. 2005;142:352-358.
- i) Computerization Can Create Safety Hazards: A Bar-Coding Near Miss. Clement J. McDonald, MD. Ann Intern Med. 2006;144:510-516.
- j) Graduate Medical Education and Patient Safety: A Busy—and Occasionally Hazardous—Intersection. Kaveh G. Shojania, MD; Kathlyn E. Fletcher, MD, MA; and Sanjay Saint, MD, MPH. Ann Intern Med. 2006;145:592-598.
- k) Effectiveness and Efficiency of Root Cause Analysis in Medicine. Albert W. Wu, MD, MPH, Angela K. M. Lipshutz, MPH, Peter J. Pronovost, MD, PhD. JAMA, February 13, 2008—Vol 299, No.6.
- l) The need for medication reconciliation: a cross-sectional observational study in adult patients. Lea Kneza, Stanislav Suskovic, Renata Rezonjab, Raisa Laaksonenc, Ales Mrharb. Respiratory Medicine (2011) 105 S1, S60–S66.

APPENDIX.

ASSESSMENT AND WORKLOAD

Module workload		Number of hours	Percentage
Contact hours	Class-based instruction	23h (54.76%)	46.66%= 42 hours
	Literature review and oral presentations	11h (26.1%)	
	Exam taking	2h (4.76%)	
	Course integrative producto (CIP)	6h (14.28%)	
Independent study	Study	33h (68.75%)	53.33%= 48 hours
	Exam preparation	15h (31.25%)	
Total hours of the workload: 30 hours X 3 credits UANL/ECTS*		90 h	

*European Credit Transfer and Accumulation System

1 UANL credit = 30 hours

NOTE: Rubrics, checklists and evaluation formats are elaborated by using the performance criteria described in each stage of the module.

SUPLEMENTO COVID-19

Siguiendo las recomendaciones de la Secretaría de Salud del país y la Rectoría de la Universidad, ante la coyuntura de salud COVID-19, la organización de la docencia desde marzo del 2020, seguirá un modelo híbrido, donde la docencia se ajustará a los horarios aprobados por la Secretaría de Salud siguiendo un modelo de Presencialidad / No presencialidad en la medida en que las circunstancias sanitarias y la normativa lo permitan. Los estudiantes asistirán a las clases de manera no presencial mediante la transmisión de las mismas de manera síncrona/asíncrona vía “on line”.