Code	INI301	Prerequisites	INS209 CBM201
Name	Engineering Economics	Co-requisites	None

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

Coordinator's name	Carlos Cordero Freddy Lara Humberto Grullón

Text book
Park, C.S. (2009). Fundamentals of Engineering Economy (2nd. ed.). Pearson-Prentice Hall Publishing Vidaurri Aguirre, H.M. (2013). Basic Economic Engineering (1st. Ed.). Cengage Learning Publishers.
Other supplemental materials
Bacca Urbina, G. (2007). Fundamentals of Engineering Economics (4th ed.). Publisher McGraw Hill. Blank, L.T., & Tarquin, A.J. (2013). Engineering Economics (7th ed.). Publisher McGraw Hill. Sullivan, W., Wicks, E., & Luxhoj, J. (2004). DeGarmo's Engineering Economics (12th ed.). Pearson-Prentice Hall Publishers. White, J; Kenneth, C; Pratt, D., & Agee, M. (2001). Engineering Economics (2nd ed.). Limus Wiley.

Description	
This course combines basic knowledge of engineering with elements of economics, in order to prepare the student to analyze investment alternatives based on economic and financial comparisons, with the aim of determining which of options generates the greatest added value for thus being able to point out which is the best alternative to invest the money. In this subject the student is prepared in mathematical aspects for these purposes.	
Type of course	☒ Required ☐ Elective

Specific goals for the course	
Outcomes of instruction	1. Understand the impact of engineering solutions in a global context and, based on this, performs efficient analyzes of alternatives that involve the use of money in order to determine the best financial alternative. 2. Show willingness to work as a team, even in cases where the help of other disciplines is required. 3. Show willingness to search for additional information when the cases that are presented to him require it. 4. Demonstrate commitment to their own learning, presenting their doubts regarding the topics studied in the course. 5. Respect the established rules of coexistence and work
Student outcomes	SO1. Identify, formulate and solve complex engineering problems by applying the principles of Engineering, Science and Mathematics. SO4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments considering impact of engineering solutions in global, economic, environmental, and social contexts. SO5. Function effectively in a team whose members together provide leadership, create a collaborative and inclusive environment, set goals, plan tasks, and meet objectives. SO7. Acquire and apply new knowledge as required, using appropriate learning strategies.

Topics
Unit I. Fundamentals of Economic Engineering, value of money over time
Unit II. Cash Flow Equivalence Factors
Unit III. Nominal Interest Rate and Effective Interest Rate
Unit IV. Analysis, evaluation and comparison of alternatives
Unit V. Analysis of Multiple Alternatives, Replacement and Depreciation
Unit VI. Sensitivity Analysis