Master of Science in Engineering Systems Management (ENSM)

• A program of 36 credit hours, or equivalently, 12 courses.

• Course requirements in three blocks:
  Block A: four courses covering Systems Engineering
  1. ISEN 613 (data analytics)
  2. ISEN 625 (simulation)
  3. ISEN 640 (system thinking)
  4. ISEN 641 (system engineering methods)

  Block B: four courses offering Engineering Management
  1. ISEN 608 (project analytics)
  2. ISEN 663 or ISEN 689 (engineering management)
  3. ISEN 667 (engineering economy)
  4. ISEN 669 (engineering decision tools)

  Block C: Four elective courses to form a concentration area (almost any graduate courses, either ISEN courses or non-ISEN courses).

• Currently, the final exam (also known as the oral defense) cannot be waived for this degree but can be conducted online.

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Concentration Area Selection

• Block C of ENSM program allows students to take four courses tailored to their own interest. A few examples are:

  - Petroleum Engineering concentration. Choose four of the following courses

    PETE 622 (Exploration and Production Evaluation)
    PETE 630 (Geostatistics)
    PETE 661 (Drilling Engineering)
    PETE 662 (Production Engineering)
    PETE 663 (Formation Evaluation and Analysis of Reservoir Performance)
    PETE 664 (Petroleum Project Evaluation and Management)
    PETE 665 (Petroleum Reservoir Engineering)

  - Safety Engineering concentration

    SENG 655 (Process Safety Engineering); SENG 660 (Quantitative Risk Analysis);
    SENG 674 (Systems Safety Engineering) SENG 680 (Industrial Hygiene);
Concentration Area Selection (continued)

- Analytics (receive a Certificate in Applied Statistics in the same time)

  STAT 604 (Computational Stats using SAS and R);
  STAT 630 (Overview of Math Stats);
  STAT 652 (Stats in Research II);
  STAT 659 (Categorical Data Analysis).

- Public Policy/Homeland Security concentration

  INTA 606: International Politics in Theory and Practice;
  INTA 609: Principles of International Law
  INTA 651 National Security Policy;
  INTA 652: The Role of Intelligence in Security Affairs.

- Industrial & Manufacturing concentration

  ISEN 614 (quality control); ISEN 630 (human factor)
  ISEN 615 (inventory control); ISEN 654 (manufacturing systems)