What is Information Engineering?
Information Engineering is a branch of systems engineering that deals with the integration of information and decision making in order to increase the effectiveness of a system. Often, this integration happens in the design and analysis of command and control systems that govern complex organizations.

Why Study Information Engineering?
Globalization brings rapid increases in information availability, connectivity, processing power, and organizational complexity. Information engineers build systems to help transform these challenges into a decisive advantage on the battlefield or in the market.

Information Engineering prepares you to be an Army leader.
You will better understand how to exercise command and control over your troops. You will understand how to use information systems to make better and more timely decisions to accomplish your mission. As you progress in your career, you will be able to design and integrate command and control systems into Army tactical operations centers in order to execute more effective combat operations faster and with fewer casualties. For example, the Army’s Future Combat Systems are a series of advanced manned and robotic systems integrated by a common battle command network.

The Bureau of Labor Statistics estimates a 40% growth in IT jobs over the next decade.
As an information engineer, your skills can help businesses transform information technology into a competitive advantage.

Training and Technology
Our laboratories utilize the same technology that the Army and business world use today. DSE is the only undergraduate department in the country offering this technology. Your ability to apply this technology will be beyond that of your peers.

- Analyze the purchase of your firstie car (SE301)
- Build a map-based battle command portal to support combat operations (SE370)
- Apply data mining techniques to better understand the severity and causes of accidents (SE382)
- Simulate past and future combat operations (SE485)
- Use computerized maps and geography to select a site for a new school (EV383)
- Build visual representations of your West Point environment (SE370)

Capstone and Academic Individual Advanced Development (AIAD)
Your IE studies will culminate with a Capstone course in which you will apply your professional and technical skills to evaluate a problem for a real world client. Some Capstones overlap with AIAD opportunities and clients such as:

- US Army Night Vision Labs
- Program Executive Office (PEO) Command Control and Communications - Tactical
- PEO - Soldier
- Future Combat Systems
- Office of Force Transformation

Wachovia Bank uses business intelligence to grow customer satisfaction and loyalty.
- Trump Entertainment Resorts looks to IE to identify trends and develop new strategic business initiatives.
- Pfizer uses data mining to get relevant information out of clinical trials.

Whether your career path is Army or industry, IE skills are employable in any success driven organization.
The Information Engineering Major* teaches information systems, engineering skills, human factors, analytical tools and business applications to exploit information technology to achieve a competitive advantage on the battlefield or in any technologically advanced organization. To major in Information Engineering, you must successfully complete the following requirements:

1. Complete the twenty seven (27) USMA core courses as specified by the Redbook.

2. Complete the thirteen (13) IE core course listed below:
   1. Complete the twenty seven (27) USMA core courses as specified by the Redbook.
   2. Complete the thirteen (13) IE core course listed below:
      - SE301 Foundations of Engineering Design & Systems Management
      - SE370 Computer Aided Systems Engineering
      - SE382 Decision Support Systems
      - SE485 Combat Modeling
      - EV398 Geographic Information Systems
      - CS301 Fundamentals of Computer Science
      - IT383 Human Information Interfacing
      - PL392 Cognitive Psychology
      - PL475 Human-Computer Interaction
      - SE402 Systems Design I
      - SE403 Systems Design II
      - IT400 Information Technology Seminar

3. Choose two (2) Engineering Skills electives:
   - CS350 Database Design and Implementation
   - CS482 Information Assurance
   - EM381 Engineering Economy
   - EM384 Analytical Methods for Engineering Management
   - EM411 Project Management
   - EM484 Dynamic Systems Analysis
   - IS450 Distributed Applications
   - IT382 Networked Systems Management
   - IT460 Information Warfare
   - SE385 Decision Analysis
   - SE481 Systems Simulation

4. Choose two (2) Battle Command Skills electives:
   - EV365 Cultural and Political Geography
   - EV377 Remote Sensing
   - EV482 Military Geography
   - HI381 Unconventional Warfare
   - HI385 War and Its Theorists
   - HI386 American Military Experience
   - HI387 Generalship – The Art of Command
   - PL398 Leadership Theory and Development
   - PL471 Leadership in Combat
   - PL472 Cross-Cultural Organizational Behavior
   - MS345 Army Operations: Past, Present, Future
   - MS497 Battle Command
   - MS498 Colloquium in Military Affairs
   - SS474 Terrorism: New Challenges

*ABET Accreditation is Pending

To Learn More About Information Engineering
Come visit us! The Information Engineering Program is in the Department of Systems Engineering located on 4th Floor of Mahan Hall. Come by the department or call 938-2700/2701 and ask for an academic counselor.

Email us: se_dac@usma.edu
Contact one of the individuals below:
LTC Rob Kewley robert.kewley@usma.edu

Learn more about Information Engineering on the Department of Systems Engineering website at:
http://www-internal.se.usma.edu or www.se.usma.edu

ABET Accreditation Pending