PRIOR LEARNING ASSESSMENT: THE EMET PROGRAM EXPERIENCE

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Outline

- Credit by Examination Examples
  - EGT 114 portfolio evidence of a product
  - CMPET 117 test demonstration of a process
  - EDSGN 100 assessment rubric for multiple sources

- Student Achievement
  - Appropriate courses for CRX
  - Academic integrity
  - EMET student testimonials
EGT 114 Intermediate Computer-Aided Engineering and Design – Spatial relations of applications in engineering technology with more advanced functionality of computer-aided drafting and design systems. (Ferrara, “EMET Standard Course Outline,” August 2011)

- **Students should have an ability to communicate effectively regarding broadly-defined electro-mechanical engineering technology activities.**
- **Students should be able to use computer-aided drafting or design tools to prepare graphical representations of electro-mechanical systems.**
The ability to produce orthographic multi-view drawings where parts are correctly presented, with information including dimensions and tolerances adhering to ANSI Y14 standards,

The ability to produce working drawings and 3-D assembly drawings, consistent with ANSI Y14 standards.

The ability to successfully create and modify complex geometry using 2-D software or 3-D parametric solid modeling software adhering to ANSI Y14 standards.

The ability to successfully create and modify assemblies of three or more unique parts using the 2-D software or 3-D parametric solid modeling software adhering to ANSI Y14 standards.

The ability to obtain true shape (true size, distance, area, and angle data) using methods of conventional descriptive geometry or the analysis tools of a parametric solid modeler adhering to ANSI Y14 standards.

- Students should be able to apply basic knowledge in electronics, electrical circuit analysis, electrical machines, microprocessors, and programmable logic controllers.
- Demonstrate a working knowledge of drafting and computer usage, including the use of one or more computer software packages for technical problem solving.
Students will be able to represent values in various number systems and perform number conversions between different number systems including binary, octal, decimal, and hexadecimal.

Students will demonstrate the knowledge of: operation of basic logic gates using IEEE/ANSI standard symbols; Boolean algebra including algebraic manipulation/simplification, and application of DeMorgan’s theorems; and Karnaugh map reduction method.

Students will demonstrate the knowledge of operation of basic types of flip-flops, registers, counters, decoders, encoders, multiplexers, and demultiplexers.

Students will be able to analyze and design digital combinational circuits including arithmetic circuits (half adder, full adder, and multiplier).

Students will be able to analyze sequential digital circuits.

Students will demonstrate knowledge of the nomenclature and technology in the areas of memory devices: ROM, RAM, PROM, PLD, FPGA, etc.

Students will be able to use a logic simulation program on the computer, such as logic works or other appropriate software to analyze and design digital circuits.
EDSGN 100 Introduction to Engineering Design - Introduction to engineering design processes, methods, and decision making using team design projects; design communication methods including graphical, verbal, and written. (Lau, “EDSGN Standard Course Outline,” August 2012)

- Be able to function effectively as a member of a technical team.
- Demonstrate an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity.
- Demonstrate an ability to select and apply the knowledge, techniques, skills, and modern tools of their discipline to broadly-defined engineering technology activities.
- Demonstrate knowledge of the impact of engineering technology solutions in a societal and global context.
Prior Learning Evidence

- Conceptually design a system, component, product, service, or process to meet desired needs within realistic constraints.
- Apply an engineering design process.
- Participate effectively in small teams.
- Communicate effectively using written and graphical forms and oral presentations.
- Demonstrate foundation for professional and ethical responsibility.
- Use software tools relevant to engineering practice.
Graduates from Spring 2009 through Fall 2012

- Total of 21,281 with 223 or 1% using CRX
- 40 Engineering Technology graduates
  - 3 majors (2EET, 2MET, or EMET)
  - 6 campuses (DS, BD, BK, HN, NK, & YK)
  - 26 courses (CMPET 005, 117, & 120; EDSGN 100; EET 101, 105, 109, & 275; EGT 101, 102, 114, 120, 201, & 297; EMET 222, 311, 330, & 440; ET 002; IET 101, 215, & 216; MCHT 111 & 214; MET 105 & 206)
  - 105 Credit by Examination procedures completed
Academic Integrity

MY HOBBY:
SITTING DOWN WITH GRAD STUDENTS AND TIMING
HOW LONG IT TAKES THEM TO FIGURE OUT THAT
I'M NOT ACTUALLY AN EXPERT IN THEIR FIELD.

ENGINEERING:
OUR BIG PROBLEM IS HEAT DISSIPATION
HAVE YOU TRIED LOGARITHMS?

LINGUISTICS:
AH, SO DOES THIS FINNO-UGRIC FAMILY INCLUDE, SAY, KLINGON?

SOCIOLOGY:
YEAH, MY LATEST WORK IS ON RANKING PEOPLE FROM BEST TO WORST.

LITERARY CRITICISM:
YOU SEE, THE DECONSTRUCTION IS INEXTRICABLE FROM NOT ONLY THE TEXT, BUT ALSO THE SELF.

48 SECONDS
63 SECONDS
4 MINUTES

http://xkcd.com/451/
Student Testimonials

- I was able to get credit for classes that I already knew the material for, which allowed me to catch up on other classes I needed coming in as a transfer student. -Jason Jones

- Nontraditional students usually find they need to come back to school for two reasons, a career change or advancement in a field they are currently in. The majority of classes that are appropriate for credit by examination fall within the first two years of coursework. -Steve Genova

- Credit by examination enabled me to use knowledge I've gained thru working in the engineering field to save time in completing my degree. -Tim Mosser
Credit by Examination is a versatile process for Prior Learning Assessment.

CRX applies to courses where skills are demonstrated by portfolio evidence.

CRX applies to courses where knowledge is demonstrated by subject testing.

Academic integrity assured through student and instructor discussions.

Students embrace the opportunity to accelerate their degree completion.
Thank You

Questions?