

Computing Accreditation Commission (CAC)

Plenary Session

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Louisville, KY



*Leadership and Quality Assurance in Applied Science,
Computing, Engineering, and Technology Education*

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Who Are We?

- **Gayle Yaverbaum**
 - Professor Emerita, Penn State Harrisburg
 - CAC Chair, ACM, CSAB
- **David Kelly**
 - President & CEO, Bluefin Robotics Corporation
 - CAC Chair-Elect, ACM, IEEE
- **Doris Lidtke**
 - Professor Emerita, Towson University
 - CAC Adjunct Accreditation Director at ABET HQ
 - ACM, CSAB



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Session Objective

- To help you to effect continuous quality improvement in your programs.



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Session Outcomes

- **Be prepared to facilitate an outcomes-based assessment process.**
- **Be prepared to integrate direct measures into program activities.**
- **Understand the relationship of all phases of the self-study to the assessment process**



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Topics



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CAC New Criteria

- **General Criteria**
 - Apply to all CAC programs
- **Program Criteria**
 - Additional criteria for
 - Computer Science
 - Information Systems
 - Information Technology

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Criteria Organization

- Students
 - **Program Educational Objectives ***
 - **Program Outcomes ***
 - **Continuous Improvement ***
 - Curriculum
 - Faculty
 - Facilities
 - Support
 - Program Criteria
- * Focus of *today's session*

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Self-Study

- Organized by criterion
- Includes requirements for
 - Narrative explanations
 - Completion of designated tables of information
 - Appendix material
 - Faculty vitae, course syllabi, institutional summary, supplementary assessment material

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Which Criteria Will Apply to My Program?

- 2008-09 Visits
 - New programs will use the new criteria.
 - All programs at an institution must use the same criteria.
 - Other programs may chose.
- 2009-10 Visits
 - All institutions will use the new criteria.



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Possible Evaluations for a Criterion

- **Deficiency:** One or more elements of a criterion are not satisfied; accreditation is not possible when there is an uncorrected deficiency.
- **Weakness:** A criterion is satisfied, but strength of compliance with one or more elements makes questionable the sustainability of accreditation for full 6 years. Interim evaluation, via report or visit, required in 2 years to assess status. Remedial action needed for full compliance.
- **Concern:** A criterion is satisfied, but the potential exists for this to change. Next evaluation will pay special attention to this. This does not affect the period of accreditation.
- All elements of the criterion are fully satisfied with no concerns.



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Accreditation Actions

		<u>Typical Duration (yrs)</u>
NGR	Next General Review (No deficiencies or weaknesses)	6
IR	Interim Report	2
IV	Interim Visit (No deficiencies; one or more weaknesses)	2
SC	Show Cause (One or more deficiencies in currently accredited program)	2
RE	Report Extended	2 or 4
VE	Visit Extended	2 or 4
SE	Show Cause Extended	2 or 4
NA	Not to Accredite	—

2007-08 CAC Actions

Action	Number	Percent
NGR, RE, VE,	56	56%
IR and IV	44	43%
SC	1	1%

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Keys to Success: Organization and Preparation

- Start early.
- Involve all the faculty.
- Assign responsibility
- Allocate adequate resources.



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New Criteria Driven By Outcomes

- Develop Objectives and Outcomes
- Assess program outcomes
- Enable (a) through (i)
- Make certain that students, curriculum, faculty, facilities, and institutional support are in place, as specified in the criteria, to achieve these outcomes



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Criterion 2: Program Educational Objectives

- The program has **documented, measurable** educational objectives that are based on the needs of the program's **constituencies**.



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Criterion 3: Program Outcomes

- The program has documented, measurable outcomes that are based on the needs of the program's constituencies.
- Comment: Parallel construction to Criterion 2.



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The program enables students to achieve, by the time of graduation:

- a) An ability to apply knowledge of computing and mathematics appropriate to the discipline
- b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
- d) An ability to function effectively on teams to accomplish a common goal
- e) An understanding of professional, ethical, legal, security and social issues and responsibilities



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The program enables students to achieve, by the time of graduation:

- f) An ability to communicate effectively with a range of audiences
- g) An ability to analyze the local and global impact of computing on individuals, organizations, and society
- h) Recognition of the need for and an ability to engage in continuing professional development
- i) An ability to use current techniques, skills, and tools necessary for computing practice.



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Criterion 4: Continuous Improvement

- The program uses a **documented process** incorporating **relevant data** to regularly assess its program educational objectives **and** program outcomes, and to evaluate the extent to which they are being met. The results of the evaluations are documented and used to effect continuous improvement of the program through a documented plan.
- Comment: Faculty buy-in to the process is important.



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Exercise 1



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Break for Lunch



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Afternoon Activities

- The Assessment Process
 - Discuss examples and exercises (to be provided) at individual tables
 - Share results
- Wrap up



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