University Wide Outcomes Based Assessment Process

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Workshop Outline

Day 1: **(P. 7 - 114)**

- Development of framework for University-Wide - Outcome - Based - Assessment
- Components of an assessment framework
- Construct Program Educational Objectives (PEOs)
- Construct University Intended Learning Outcomes (UILOs)
- construct Program Intended Learning Outcomes (PILOs)
- construct Course Intended Learning Outcomes (CILOs)

Day 2: **(P. 115 - 178)**

- Align Teaching and Learning Activities(TLAs), and Assessment with Intended Learning Outcomes(CILOs)
- Design an Assessment Plan by Selecting Appropriate Assessment Methods and Criteria for Achievement of Course Intended Learning Outcomes

- Assess Program Intended Learning Outcomes (PILOs)
- Prepare a Course Portfolio and develop a review and audit plan

Day3: **(P. 179 - 265)**

- Assess Program Educational Objectives (PEOs)
- Develop a university-wide framework of assessment and management
- Define the roles and responsibilities of the concerns
- Structure the organization for quality review, assurance, control and enhancement
- Formulate Policies, Procedures and Processes for quality review, assurance, control and enhancements
- Lead Change Management at the organization for quality upgrade
- Know the Tools to maintain quality assurance, control, and enhancement
- Identify the Resources and Training needed to maintain the level of quality

References **(P. 266 - 268)**


Assessment
IDEAS
Identify, Mission, PEOs & ILOs
Define Criteria for Success
Evaluate Performance against Criteria
Analyze Assessment Results
Seek Improvements through actions

Day 1

Workshop Summary (Day1)

Today's workshop: Attendance will :

- Comprehend the framework for University-Wide - Outcome - Based - Assessment and continuous improvement
- Have the knowledge of components of an assessment framework
- Be able to construct Program Educational Objectives (PEOs)
- Be able to construct University Intended Learning Outcomes (UILOs)
- Be able to construct Program Intended Learning Outcomes (PILOs)
- Be able to construct Course Intended Learning Outcomes (CILOs)

Think About It..... (Day1)

What is the difference between

- Teaching and telling?
- Teaching and learning?
- Assessing and grading?

What Is Teaching and learning? (Day1)

- Instructor presents information and insights.
- Instructor reveals knowledge or skills
- Instructor helps students learn.
- Students listen, study, memorize, practice, etc.
- Students develop knowledge, skills and competence

NOTE:

All of the above can be accomplished either deliberately or incidentally. That is, you can learn by means of explicit instruction, ongoing guidance, deliberate modeling, or accidental example

Ways to Improve Teaching and Learning? (Day1)

- Implement research-based "best practices".
- Employ an assessment/evaluation - informed model of teaching focused on measurable student learning outcomes.
- ***But*, How to do this?**

First we need to distinguish "assessment" from "evaluation".

What is assessment? (Day1)

- Assessment for learning is best described as a process by which assessment information is used by teachers to adjust their teaching strategies, and by students to adjust their learning strategies.
- Assessment, teaching and learning are inextricably linked, as each informs the others.
- Assessment is a powerful process that can either optimize or inhibit learning, depending on how it's applied

Assessment and Evaluation In Education (Day1)

- The overall goal of assessment is to improve student learning.
- Assessment provides students, parents, and teachers with valid information concerning student progress and their attainment of the expected curriculum.
- Assessment should always be viewed as information to improve student achievement.
- Assessments are based on the levels of achievement and standards developed for those curricular goals.
- Assessment and evaluation measure whether or not learning and/or learning objectives are being met.
- Assessment requires the gathering of evidence of student performance over a period of time to measure learning and understanding. Evidence of learning could take the form of dialogue, journals, written work, portfolios, tests along with many other learning tasks.

Assessment vs Evaluation ? (Day1)

The term assessment and evaluation are quite different:

- An evaluation is more focused on making a judgment or determination concerning the quality of a performance, work product or use of skills against a set of standards.
- Evaluations are designed for and intended to document the level of achievement that has been attained.
- An assessment is more focused on measuring a performance, work product, or skill in order to offer feedback to document strengths and growth and to provide directives for improving future performance.
- Assessments are nonjudgmental and are designed and intended to be helpful to produce improvement.
- One could look at assessment and evaluation as the journey (assessment) versus the snapshot (evaluation).

Formative & Summative Assessment (Day1)

Formative Assessment

- Assessment ***for*** learning
- Taken at varying intervals throughout a course to provide information and feedback that will help improve
    - the quality of student learning
    - the quality of the course itself
- "…learner-centered, teacher-directed, mutually beneficial, formative, context-specific, ongoing, and firmly rooted in good practice» (Angelo and Cross, 1993)
- Provides information on what an individual student needs
    - To practice
    - To have re-taught
    - To learn next

Formative & Summative Assessment (Day1)

Formative Assessment

- "… often means no more than that the assessment is carried out frequently and is planned at the same time as teaching." (Black and Wiliam, 1999)
- "… provides feedback which leads to students recognizing the (learning) gap and closing it … it is forward looking …" (Harlen, 1998)
- " … includes both feedback and self-monitoring." (Sadler, 1989)
- "… is used essentially to feed back into the teaching and learning process." (Tunstall and Gipps, 1996)

Formative & Summative Assessment (Day1)

Summative Assessment

- "… assessment (that) has increasingly been used to sum up learning" (Black and Wiliam, 1999)
- "… looks at past achievements
- "… adds procedures or tests to existing work
- "... involves only marking and feedback grades to student
- "… is separated from teaching
- "… is carried out at intervals when achievement has to be summarized and reported." (Harlen, 1998)

Formative & Summative Assessment (Day1)

Summative Assessment

- Assessment ***of*** learning
- Generally taken by students at the end of a unit or semester to demonstrate the «sum» of what they have or have not learned.
- Summative assessment methods are the most traditional way of evaluating student work.
- «Good summative assessments--tests and other graded evaluations--must be demonstrably **reliable, valid,** and **free of bias**» (Angelo and Cross, 1993).

Formative & Summative Assessment (Day1)

Formative	Summative
A process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to help students improve their achievement of intended instructional outcomes.	A tool used after instruction to measure student achievement which provides evidence of student competence or program effectiveness.
show the student and teacher where the student is on the continuum of learning.	Show if the student has mastered the concept
When the cook tastes the soup	When the customer tastes the soup
When the coach critiquing a player's form shooting a corner-shot during practice	When the manager keeping stats on corner-shot during the game
Homework can be formative	The test can be summative
Process of feeding and watering the plants appropriate to their needs - directly affecting their growth	The process of simply measuring the plant to compare and analyze measurements but, in themselves, these do not affect the growth of the plants

Assessment and evaluation In Education (Day1)

- Assessment would be a review of journal entries, written work, presentation, research papers, essays, story writing, tests, exams etc. and will demonstrate a sense of more permanent learning and clearer picture of a student›s ability.
- Evaluation occurs when a mark is assigned after the completion of a task, test, quiz, lesson or learning activity. A mark on a spelling test will determine if the child can spell the given words and would be seen as an evaluation.
- Although a child may receive high marks in spelling test, if he/she can't apply correct spelling in every day work, the high spelling test marks (evaluations) matter little.
- Effective teacher will use both assessment and evaluation techniques regularly and on a daily basis to improve student learning and to guide instruction

Assessment vs Evaluation

(various sources, but especially Dan Apple 1998) (Day1)

Dimension of Difference	Assessment	Evaluation
Timing	**Formative:** *Ongoing to Improve Learning*	**Summative:** *Final to Gauge Quality*
Focus on measurements	**Process-Oriented:** *How Learning Is Going*	**Product-Oriented:** *What's Been Learned*
Relationship Between Administrator and Recipient	**Reflective:** *Internally Defined Criteria/Goals*	**Prescriptive:** *Externally Imposed Standards*
Findings, Uses Thereof	**Diagnostic:** *Identify Areas for Improvement*	**Judgmental:** *Arrive at an Overall Grade/Score*
Ongoing Modifiability of Criteria, Measures Thereof	**Flexible:** *Adjust As Problems Are Clarified*	**Fixed:** *To Reward Success, punish Failure*
Standards of Measurement	**Absolute:** *Strive for Ideal Outcomes*	**Comparative:** *Divide Better from Worse*
Relation Between Objects of Assessment/Evaluation	**Cooperative:** *Learn from each Other*	**Competitive:** *Beat Each other Out*

Ways to Improve Teaching and Learning? (Day1)

- Implement research-based “best practices”.
- Employ an assessment-informed model of teaching focused on measurable student learning outcomes.
- ***But,* How to do this?**

Ways to Improve Teaching and Learning? (Day1)

- Employ an assessment-informed model of teaching focused on measurable student learning outcomes.

***But,* How to do this?**

- Define learning Outcomes (desired by teachers and/or learners) well in advance.
- Assess progress toward outcomes, by and for both teacher and learner, continually during learning.
- Evaluate attainment of outcomes rigorously as each learning opportunity concludes.
- Moment-by-moment, meeting-by-meeting, course-by-course, semester-by-semester.

Five Assessment Principles

(Thomas Angelo & Patricia Cross, 1993) (Day1)

- To improve their teaching, faculty must define learning outcomes and measure their attainment.
- To improve their learning, students must learn how to use feedback to assess their own progress (= "self-assessment").
- The best assessment derives from teachers' questions about their own teaching.
- Systematic assessment can be an intellectually challenging source of faculty satisfaction.
- Assessment provides an impetus for active student involvement, a proven "best practice".

Traps in Assessment (Day1)

- Measure what is easiest to measure
- Underestimate the learning in the assessment
- Power of teacher over student
- Reduce learning to what is evaluated

Factors Inhibiting Assessment (Day1)

- A tendency for teachers to assess quantity and presentation of work rather than *quality of learning*.
- Greater attention given to marking and grading, much of it tending to lower self esteem of students, rather than *providing advice for improvement*.
- A strong emphasis on comparing students with each other, which demoralizes the less successful learners.

What Outcomes - Based Assessment involves? (Day1)

It involves:

- Articulate our expectations in the form of learning outcomes
- Making our expectations explicit and public;
- Setting appropriate criteria and high standards for learning quality;
- Measure achievement of expectations
- Using the resulting information to document, explain, and improve performance
- Assess effectiveness of improvement

Goals of Assessment (Day1)

Goals of Assessment are to enhance the quality of

Teaching:

- learning and teaching in the academic environment;
- Experiences beyond those from the classroom which nurture students;
- Intellectual, emotional, physical, social, cultural and spiritual development

Research:

- Scholarly and creative activities, and the services that support research;

Service:

- Public service programs that fulfill our responsibilities to the citizens of our country

Levels of Assessment (Day1)

Three levels of assessment

- Course assessment
- Program assessment
- Institutional assessment

Course, Program, and Institutional learning outcomes should be aligned, but are not identical

Institution – Wide Assessment? (Day1)

Institution-wide assessment is a public demonstration that the Institution's

- purpose is appropriate to higher education;
- programs and services are sufficient to accomplish its purpose;
- specific outcomes are consistent with the institution's vision and mission; and
- institutional effectiveness and quality enhancement are achieved.

Overall Purpose of University – Wide-Assessment (Day1)

- Monitor and improve the quality of educational practice by contributing to the *continuous improvement of student learning*
- Satisfy all the requirements set by government for both *institutional and program quality*.
- Support and prepare university's programs for *International Accreditation*.

Specific Purpose of University - Wide Assessment (Day1)

- Establish uniform assessment across university for all programs and support units.
- Create a *culture* of cooperation, competition, and interdisciplinary activities across campus.
- integrated direct/indirect assessment methods acrosscampus.
- Support the University Strategic Plan's Goals

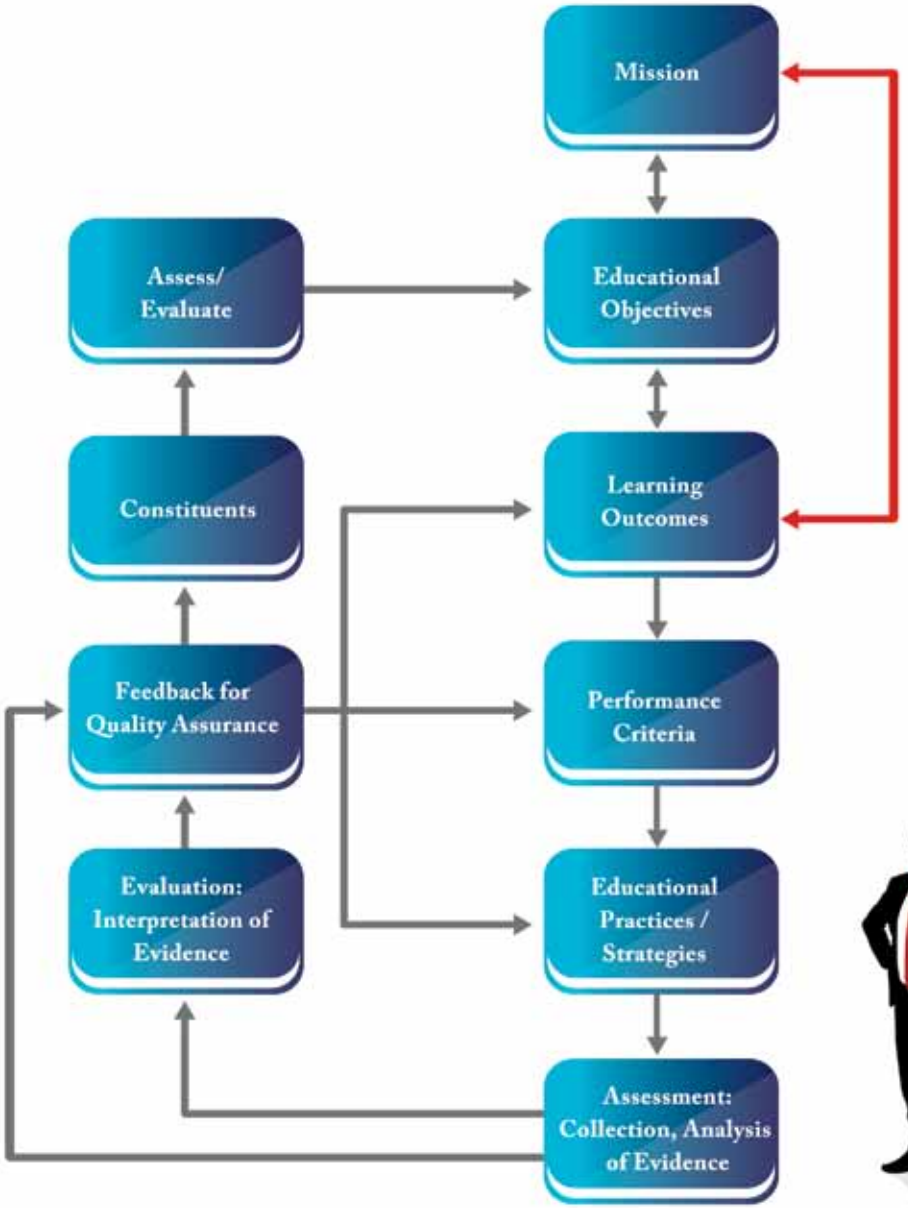
Learning and Assessment (Day1)

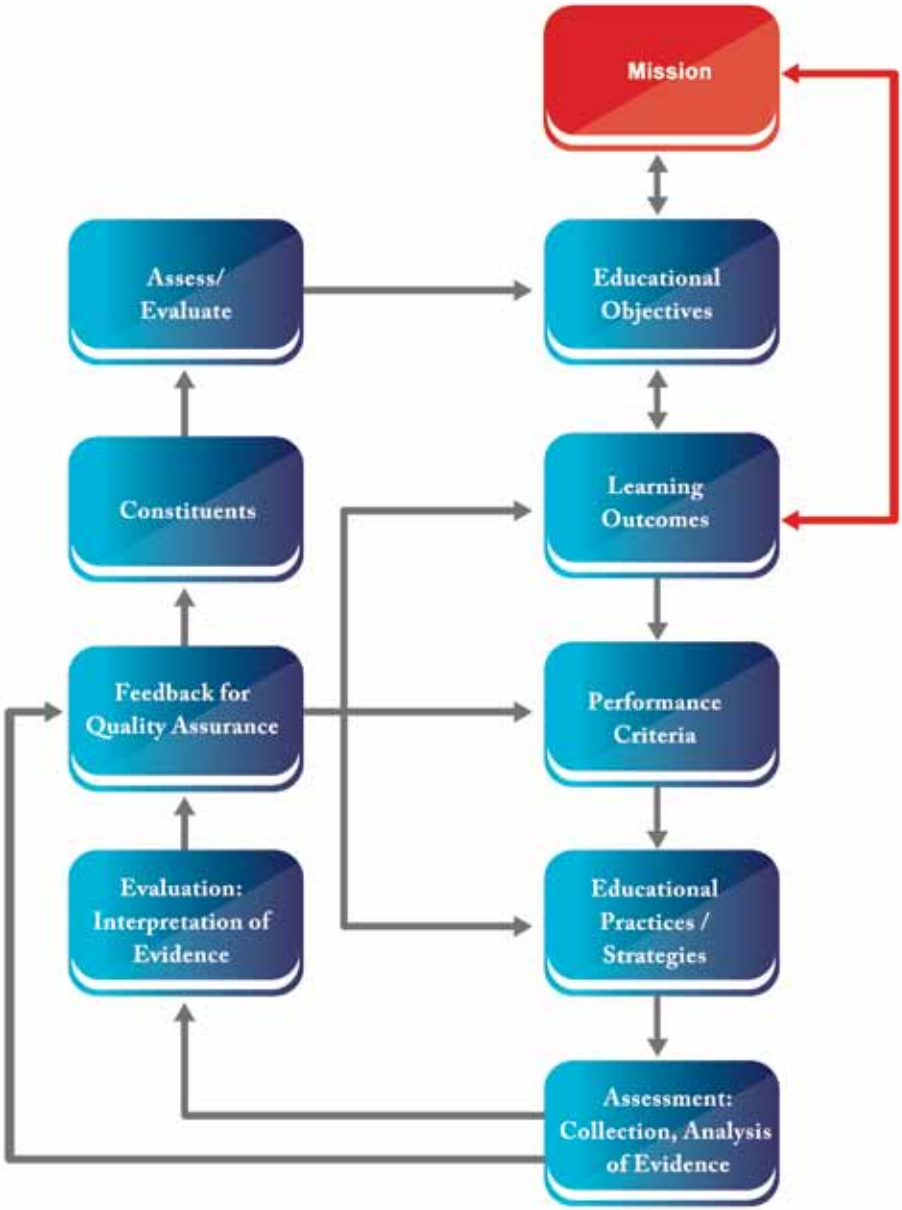
- ***What do we want our students to achieve?*** Objectives(Aims , Goals)& Intended Learning Outcomes
- ***How do we help our students achieve them?*** Teaching & learning activities
- ***How do we know our students have achieved Them?*** Assessment tasks (Formative & Summative)

Exercises

Use the exercise booklet to differentiate between assessment and evaluation

Elements of Outcomes based Assessment Process



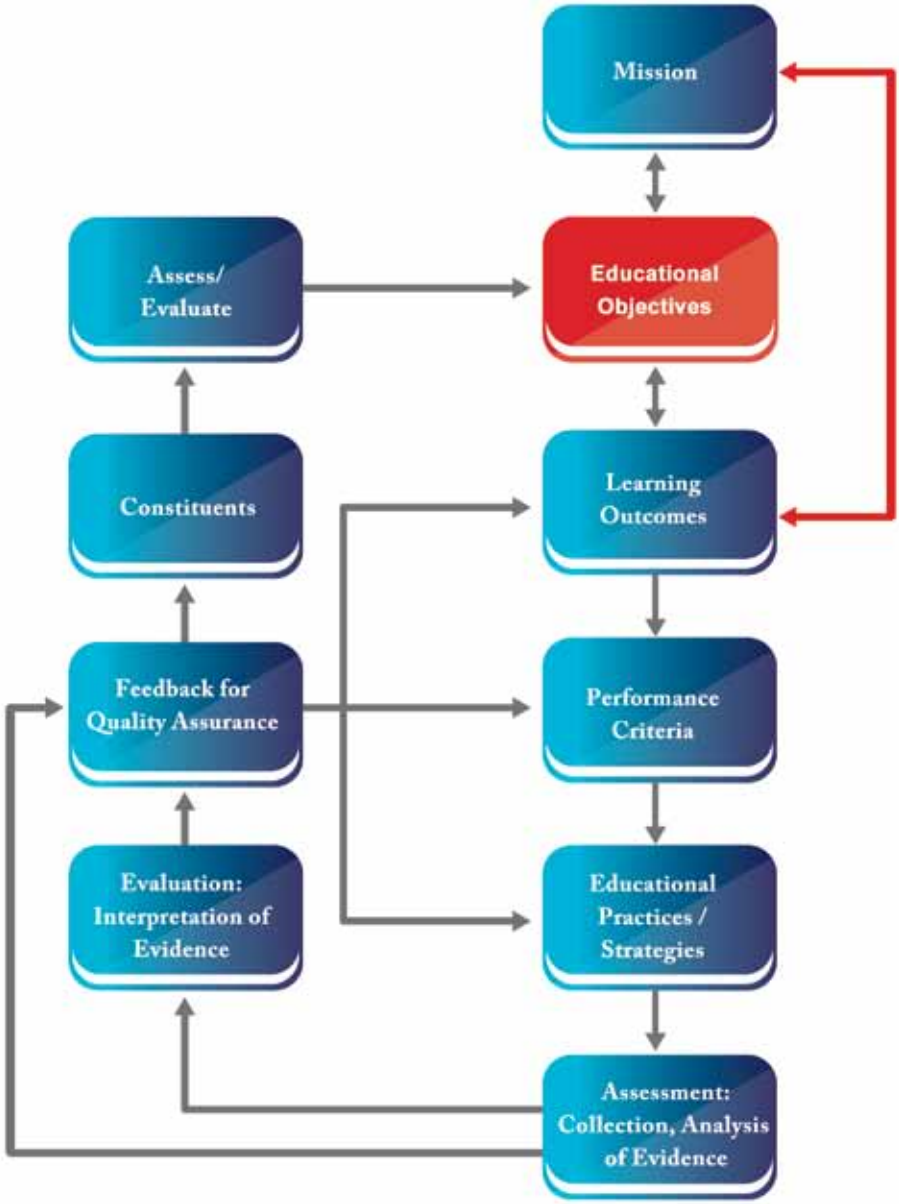


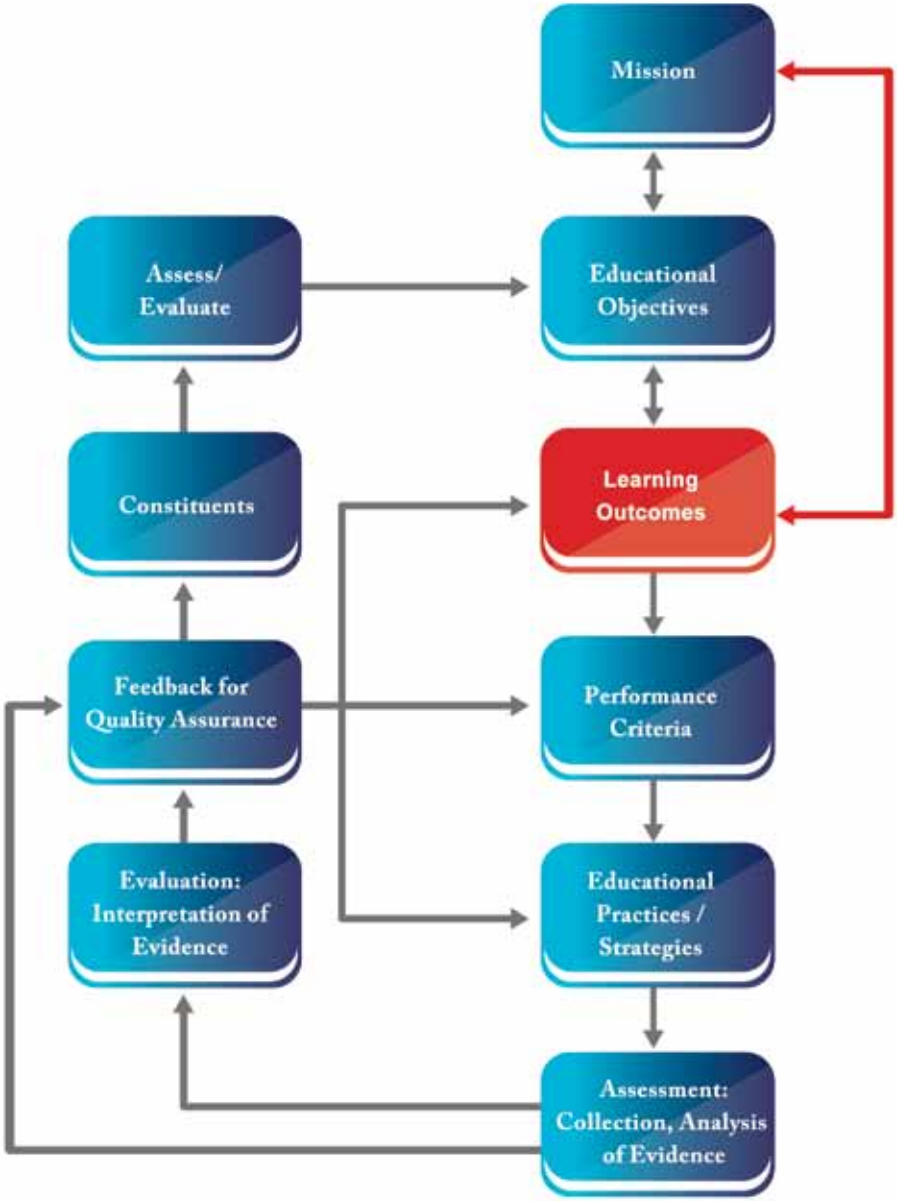
Mission

- Assessment planning begins with the institutional mission statement.
- The institutional mission statement describes the communities that are served, institutional purposes and other characteristics that define the institution.

Educational

- Educational objectives are statements that describe the expected accomplishments of graduates during the first few years *after graduation* - usually 3-5 years.
- These objectives should be consistent with the mission of the program and the institution



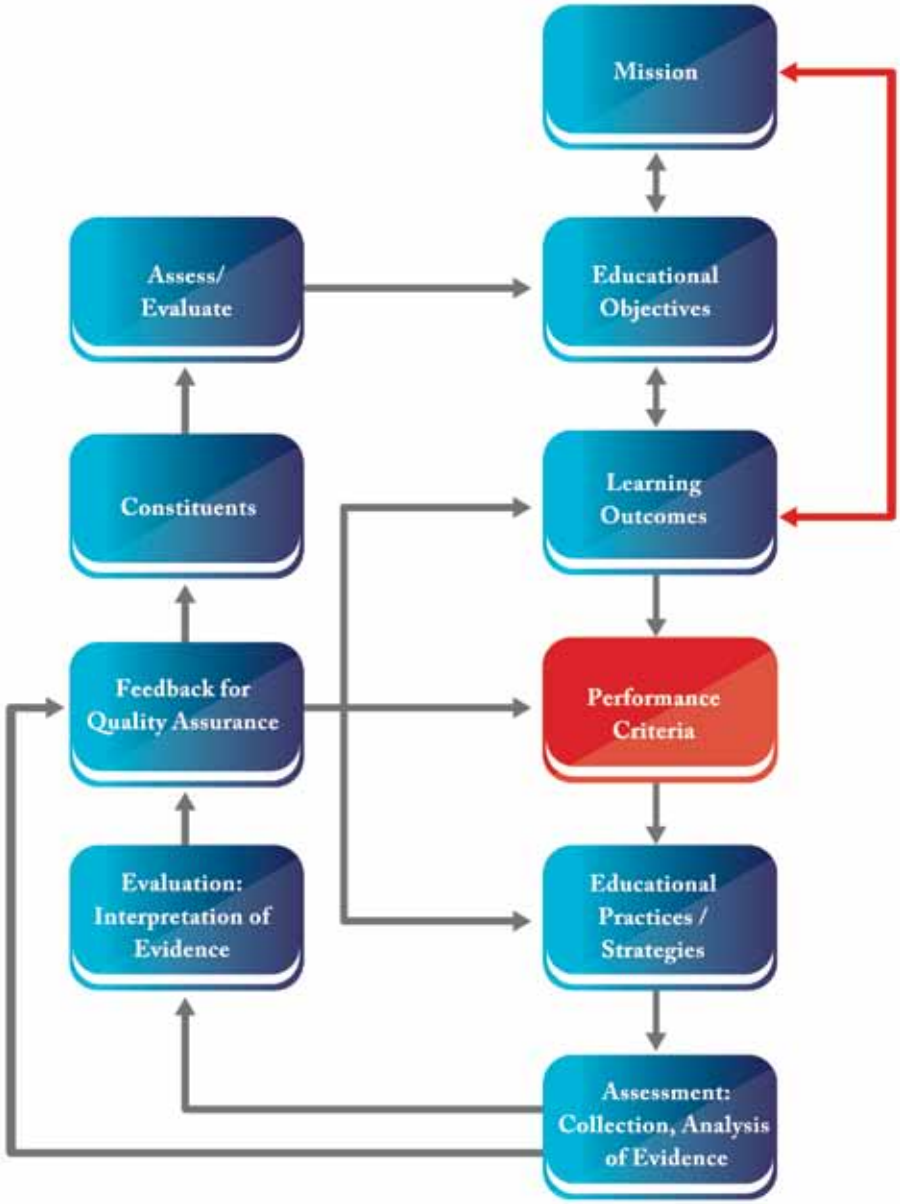


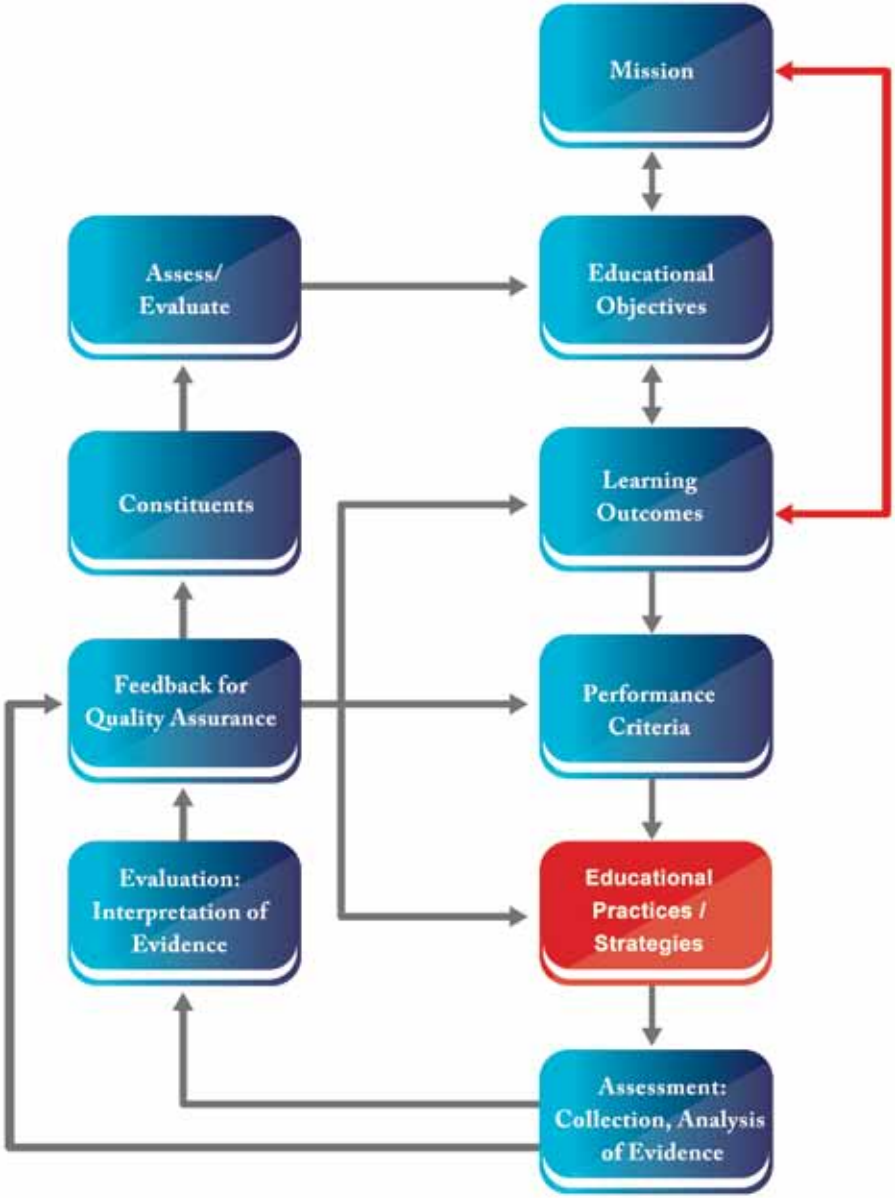
Learning Outcomes

- Learning outcomes are statements that describe what students are expected to know and/or be able to do by the time of graduation.
- If students have achieved these outcomes, it is anticipated that they will be able to achieve the educational objectives after graduation.

Performance Criteria

- Performance criteria are those statements which define the learning outcomes.
- These criteria are high level indicators that represent the knowledge, skills, attitudes or behavior students should be able to demonstrate by the time of graduation that indicate competence related to the outcome.



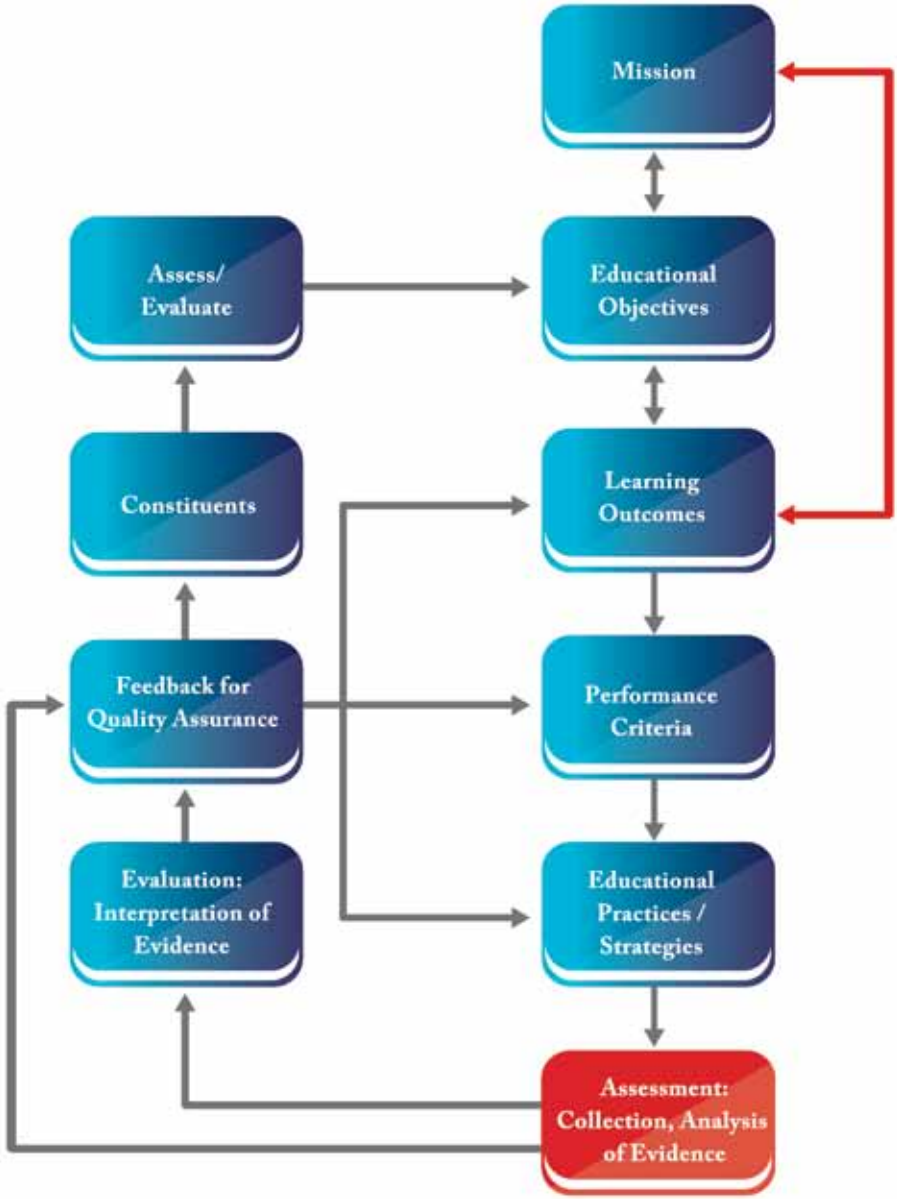


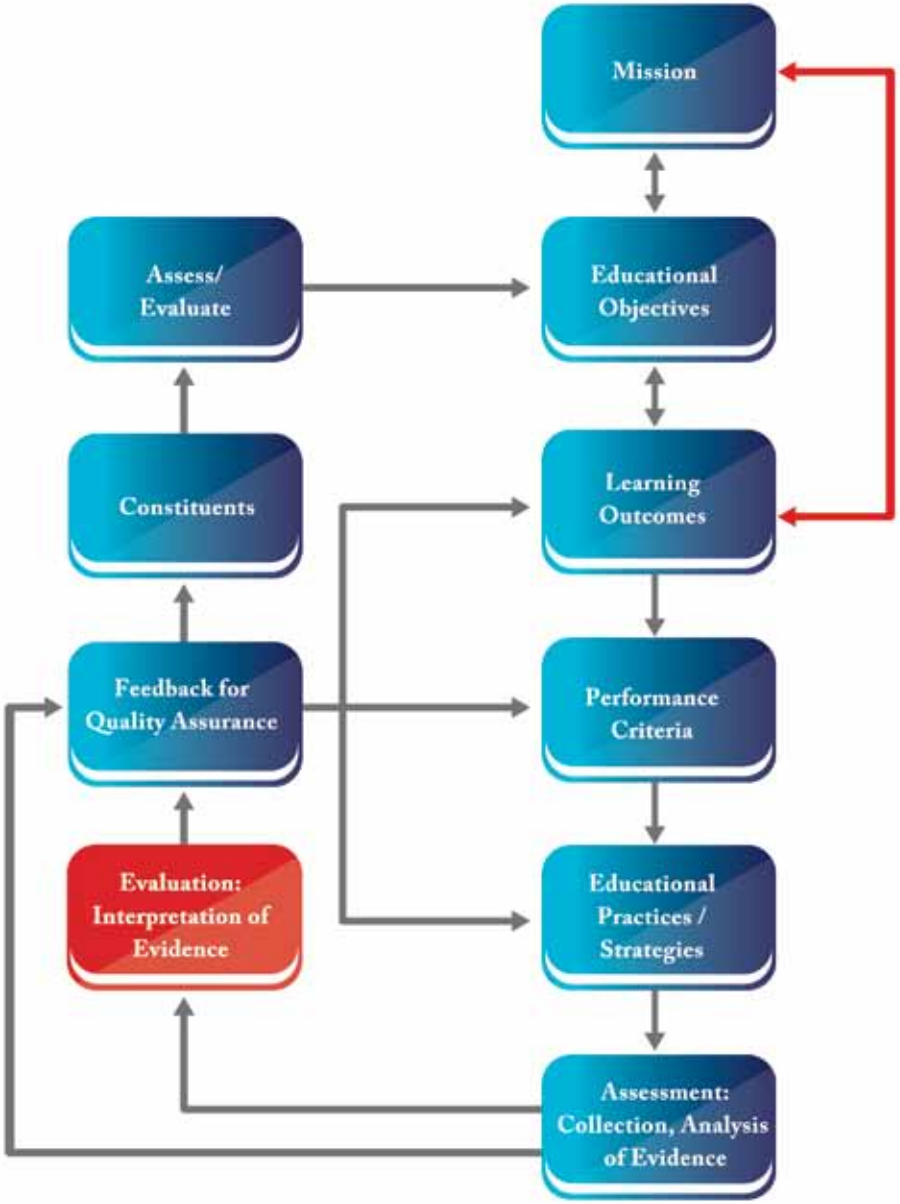
Educational Practices/Strategies

- Understanding the alignment between educational practices and strategies promotes efficient and effective assessment practices.
- This can be accomplished by mapping educational strategies (which could include co-curricular activities) to learning outcomes.

Assessment: Collection, Analysis of Evidence

- Strategies for data collection and analysis need to be developed that are consistent with the assessment question, resources available, appropriate validity and utility of findings.



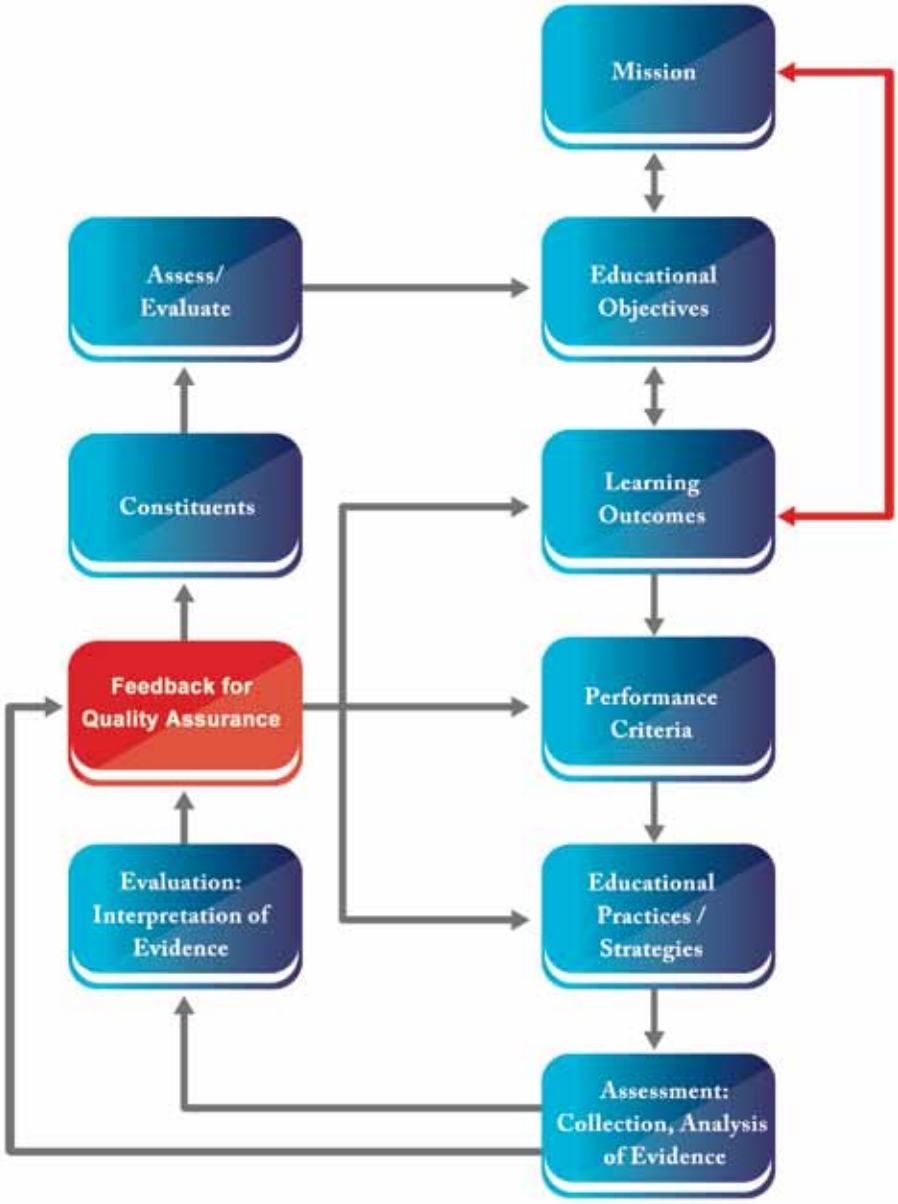


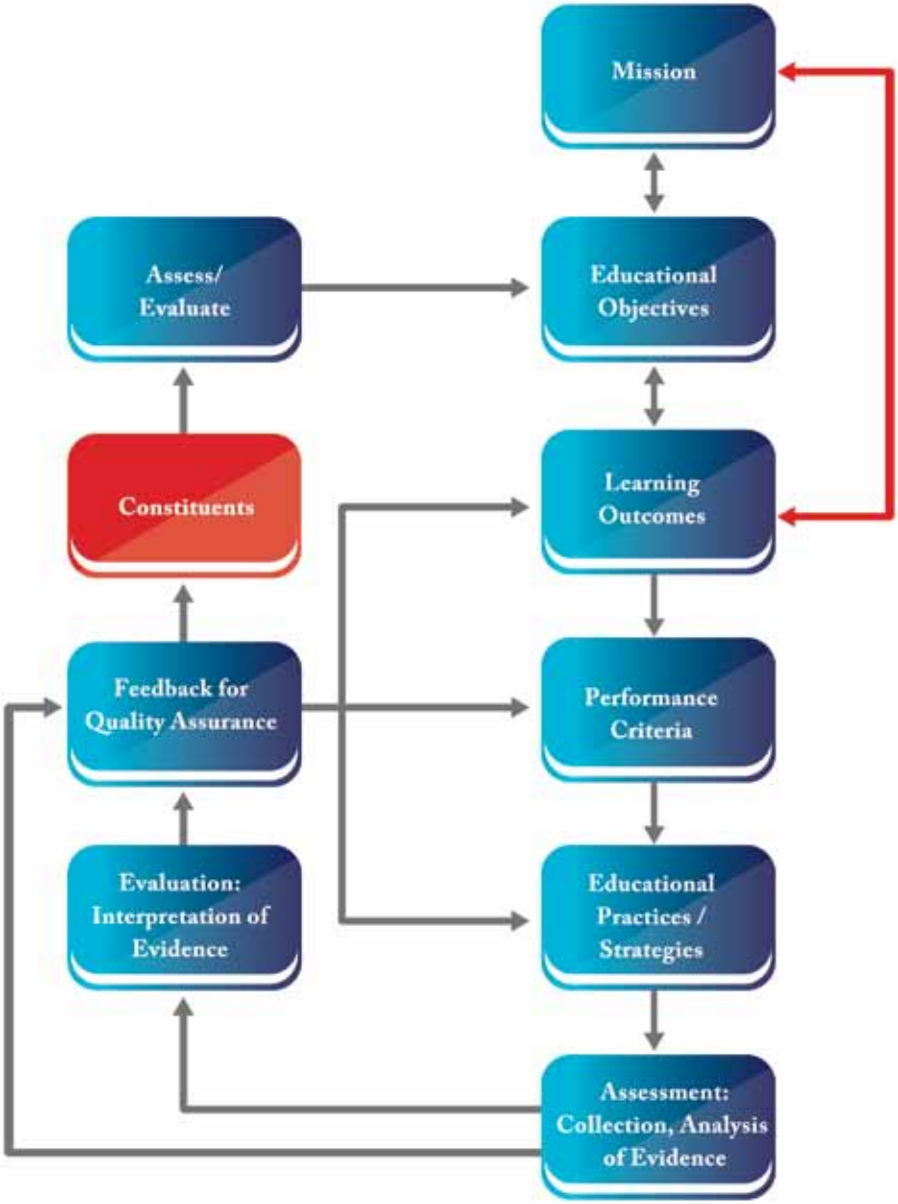
Evaluation: Interpretation of Evidence

- Evaluation is the process that is used to determine the meaning of the assessment results.
- This includes the implications of assessment results related to program effectiveness and recommendations for improvement.
- Evaluation should include those who can implement improvement strategies.

Feedback for Quality Assurance

- The feedback process is critical to creating and maintaining a systematic quality assurance system.
- When successfully implemented, all elements of the quality assurance process interact with one another.



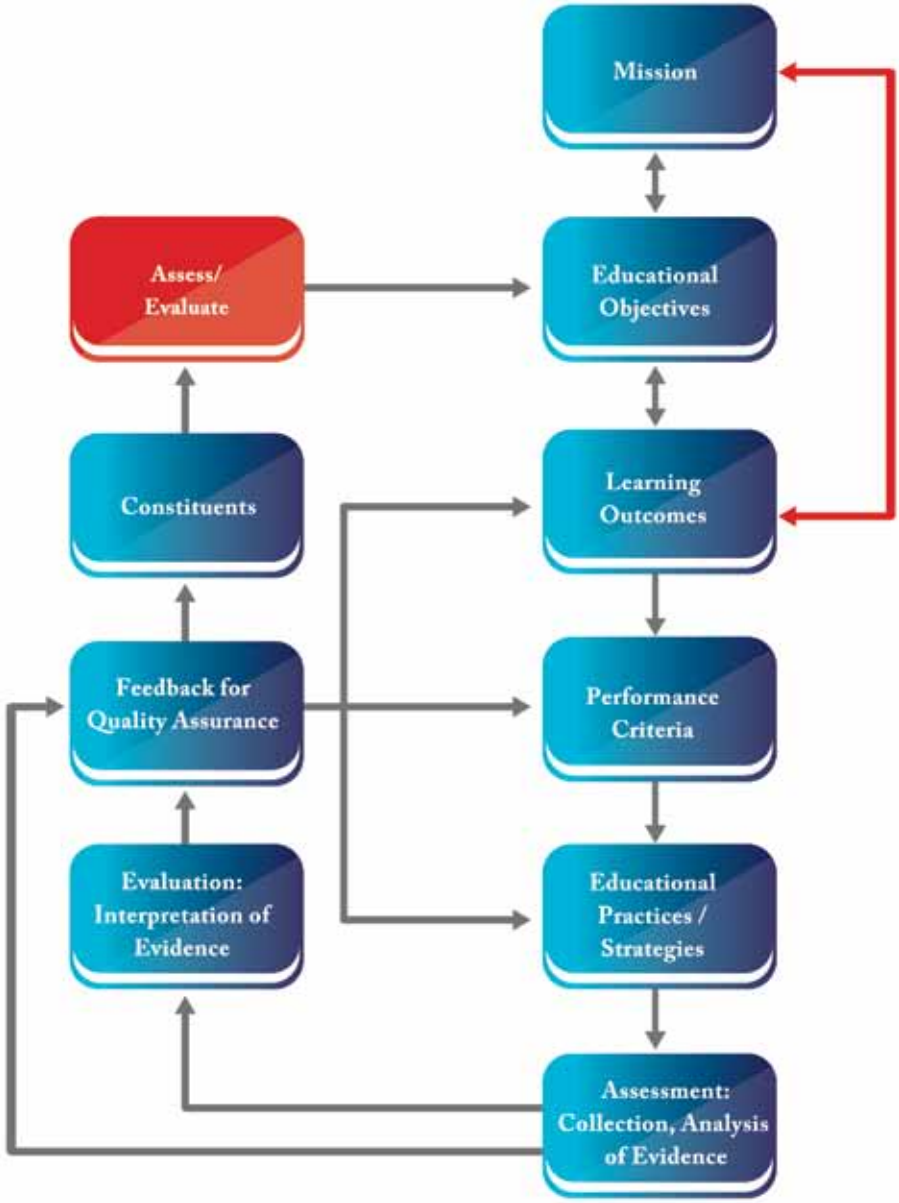


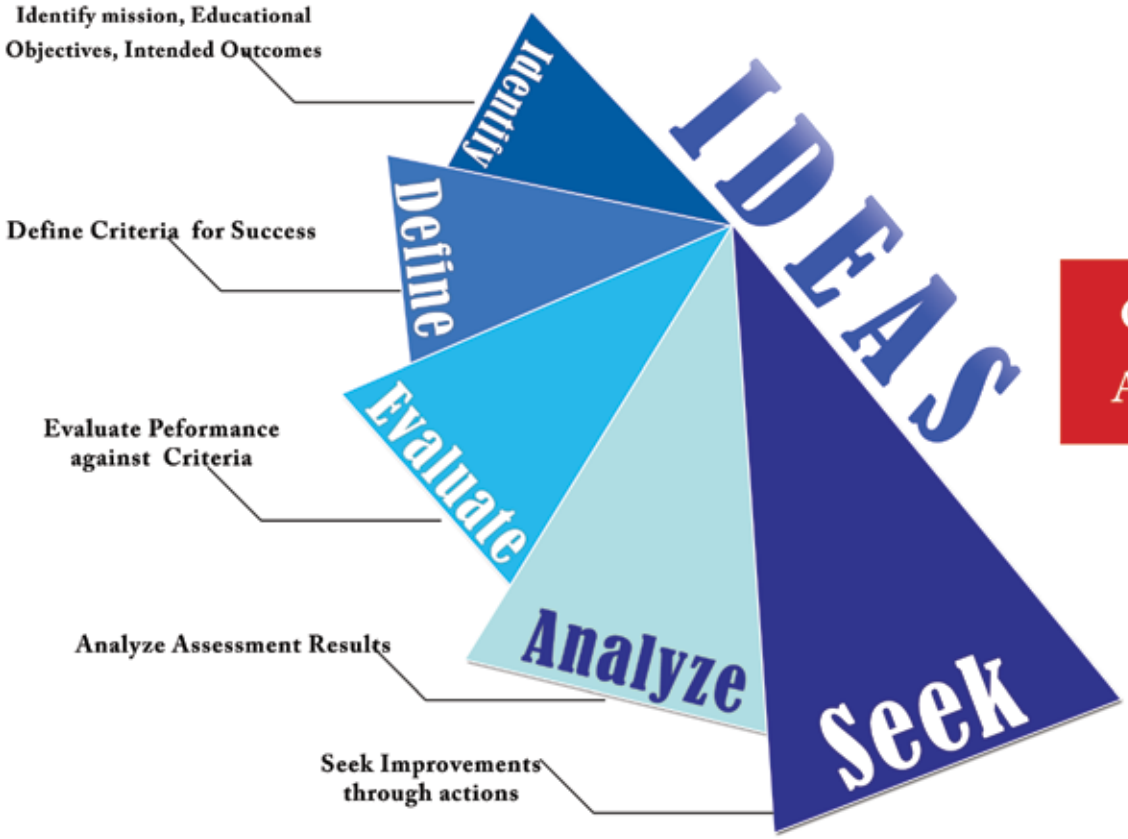
Constituents

- Faculty
- Technicians
- Lab Assistants
- Students
- Alumni
- Employers

Assess / Evaluate

- Educational objectives need to be assessed and evaluated periodically.
- This is generally done through indirect assessment method by the stakeholders (alumni, employer, etc.)
- The objectives should be evaluated on a systematic basis to determine their continued relevance to the needs of constituents. This evaluation should be done every 3-5 years.





Outcomes-based Assessment Steps

Defining the mission (Day1)

Where to start?

- Mission of the institution
- Mission of the College
- Mission of the Program

Next

- Definition of the PEOs
- Definition of Intended Learning Outcomes

Defining Program Educational Objectives (Day1)

Where to start?

- ***Objectives:*** the GOAL…what we want our students to achieve in 5 or so years after graduation
- ***"we:"*** the program faculty
- ***"want:"*** desired (not actual) achievements
- ***"our students:"*** those in our degree program
- ***"achieve:"*** accomplishments, not personal qualities

Defining Program Educational Objectives (Day1)

Statement of PEOs

- PEO's are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve.
- They are the expected accomplishments of graduates (employment, graduate school, licensure, responsible citizenship, etc.).
- The constituencies and the mission play a major role in defining these high-level objectives.

Writing Program Educational Objectives (Day1)

Statement of PEOs

Statements that describe the expected accomplishments of graduates *during the first few years after graduation*.

PEOs are;

- Broad
- Long-term
- What do we expect our graduates to accomplish - graduate's, employer's, society's perspective.
- 3~5 per program
- Future Tense

Defining Program Educational Objectives and Intended Learning Outcomes (Day1)

Where to start?

- Mission, Vision statements
- Values, Goals, Purpose, Philosophy
- Curriculum Details
- Market Needs
- External agencies (e.g. AACSB, ABET, SACS, NCATE, NAAB, CIDA)

Example 1 Program Educational Objectives (Day1)

Marketing Program

Graduates of the *Marketing* Major program will be prepared to:

- Hold entry-level professional positions in business or nonprofit organizations.
- Enter an MBA or other graduate business program.
- Make significant contributions to marketing decision-making in both domestic and global organizations

Example 2 Program Educational Objectives (Day1)

Psychology B.A. and B.S. Programs

- Graduates will be prepared to apply knowledge of psychological theory, research and methods to education, career and interpersonal relations.
- Graduates will be prepared for employment in occupations related to knowledge and skills in psychology (e.g., administration, advertising, community relations, human resources, human services, market research, and sales).
- Graduates will be prepared for entrance into graduate programs in psychology, related areas of human services (e.g., counseling), or to professional schools (e.g., psychology, medicine, dentistry, veterinary medicine, and law).

Example 3 Program Educational Objectives (Day1)

Biological Sciences Programs

Graduates will be prepared for

- Entrance to a professional school (e.g., medical, dental, veterinary, law)
- Employment related to biology (e.g., in a research & development laboratory, fishery, drug company; or in a quality control agency monitoring environmental pollution, food producers, cosmetics; or as a teacher in school)
- Entrance to a graduate program in biology

Example 4 Program Educational Objectives (Day1)

Computer Science Program

Graduates of the B.Sc. program in computer science are expected to

- Pursue a successful career in the fields of computing and IT
- Engage in a life-long learning, graduate-level studies, or professional development
- Contribute positively to society through responsible and ethical practice within the IT profession.

Example 5 Program Educational Objectives (Day1)

Business Program

- Graduates of the program will exhibit *leadership* in the business field with strong communication and interpersonal skills necessary to pursue successful careers in the specified field.
- Graduates of the program will be *life-long learners* and stay informed of the professional field.
- Graduates of the program will be contributing members of the society by conducting themselves in a responsible and *ethical* manner.

Exercises

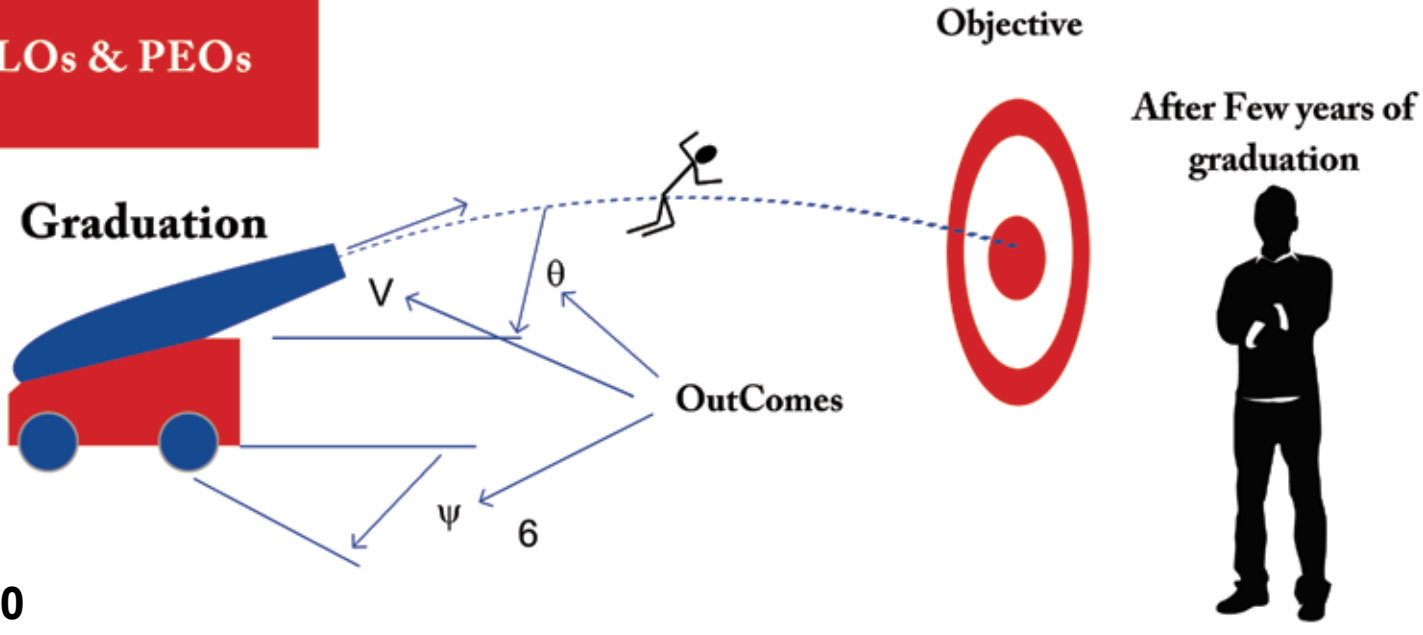
Use the exercise booklet to develop Program Educational Objectives (PEOs)

Next: How to Develop Intended Learning Outcomes (Day1)

What are Intended Learning Outcomes?

- Learning outcomes provide the basis for strategies to measure student performance and assess program effectiveness to continuously improve teaching and learning
- Statements describing what students know, understand, and can do with their knowledge, as well as what they feel and believe, as a result of their learning experiences.
- Can be written for a **course**, a **program**, or an entire **institution**

PILOs & PEOs


Objective
After Few years of graduation
Graduation
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Type of Intended Learning Outcomes (Day1)

Course Intended Learning Outcomes (CILOs)

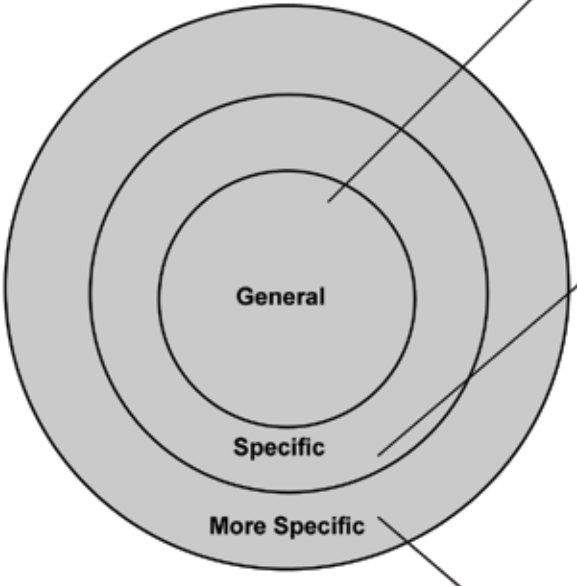
- Specify the knowledge, skills, and abilities that a successful student will attain from the course
- Should be known by the students
- Basis for classroom assessment
- Responsibility with course coordinator and instructors

Program Intended Learning Outcomes (PILO's)

- Developed by the Department
- Measurable and direct statements of the skills, knowledge, and competence of a graduate
- Curriculum must satisfy and cover these skills, knowledge, and competences
- Assessed through direct and Indirect assessment (PIs, Performance Indicators, Surveys, etc..)

Types of Intended Learning Outcomes (Day1)

- **University Intended Learning Outcomes (UILOs)**
  - To ensure educational quality and curricular coherence, the Institution should identify University Learning Outcomes (UILO's) which all students will have achieved upon graduating from the University
  - Programs must ensure that the PILOs cover these UILOs
  - A mapping of PILOs to UILOs must be provided



Levels of Learning Outcomes

Institutional Level

(Based on a college's or university's mission statement, educational philosophy, or educational objectives)

Communicate in and out of the classroom through both the use of written and spoken Language.

Program Level

(Department, division, school or service within an institution)

Students receive support in writing research papers for various courses. (TIP)

Service and Course Level

(Service or activity in which students are engaged)

Students know how to use the English Works! website to look up grammar rules.

How to write Learning Outcomes? (Day1)

- Aligned with mission statements
- Program level
- Stated from student perspective
- Intended learning outcomes (will)
- Specific
- Can be measured by multiple methods
- Identify the **MOST IMPORTANT** learning requirements –danger is that people try to use too many –about 6 for a course
- Be achievable and assessable
- Use language which students will understand
- Can relate to criteria for assessing levels of achievement in the NQF e.g. undergraduate or postgraduate

Benefits of Learning outcomes (Day1)

- Program improvement
- Evaluation of instruction
- Course design and revision
- Curriculum assessment and change
- Improved Communication
- Advising Tools
- Targets for assessment and accreditation

Defining University Intended Learning Outcomes (UILOs) (Day1)

- These are the minimum intended learning outcomes for any graduate
- Graduates from any program should satisfy the UILOs as a minimum requirement for graduation
- It is expected that graduates from specific program will have further skills and knowledge related to the specific area of study
- UILOs are defined according to the four outcome domains
    - Knowledge and understanding
    - Subject-specific Skills
    - Thinking Skills
    - General and Transferable Skills

Example of UILOs (Day1)

- **Communication:** Communicate effectively (oral and written) in a clear, well-organized manner to convey ideas with an intended audience in a variety of academic and professional settings.
- **Technological Competence:** Demonstrate competence in the use of information technology broad enough to meet personal, academic and professional needs.
- **Critical Thinking Knowledge and Skill:** Possess a knowledge base in general education areas and demonstrate and apply critical and creative thinking, and specific knowledge and skills in a major discipline or professional program of study.
- **Information Literacy:** Demonstrate the ability to apply research skills to effectively locate, retrieve and evaluate information and use it ethically.

Example of UILOs (Day1)

- **Responsibility and Integrity:** Act purposefully, ethically, respectfully and responsibly in their interaction with staff, faculty, peers and the institution as a whole.
- **Life-Long Learning:** Strive for excellence in life-long learning by planning for the future, participating in continuing education or professional development activities and seeking formal and informal opportunities to enrich their lives

Defining Program Intended Learning Outcomes (PILOs) (Day1)

PILOs are the skills, knowledge, behaviors, attitudes, or beliefs that a student should possess upon graduation to be on track to achieve the Program Educational Objectives.

- "Skills knowledge etc:" internal attributes
- "upon graduation:" note time frame
- on track: well prepared for success
- "achieve the objectives:" bright future in mind

Characteristics of PILOs (Day1)

- Student-focused
- Articulates a single measureable knowledge, skills, competency
- Describes learning resulting from an activity
  - Ask «what do students know that they didn›t know before,» and
  - «what can they do that they couldn›t do before?“
- Aligned with mission, values at all three levels
- Specific, Measurable, Achievable, Reliable, Targetable
- 3~11 per program

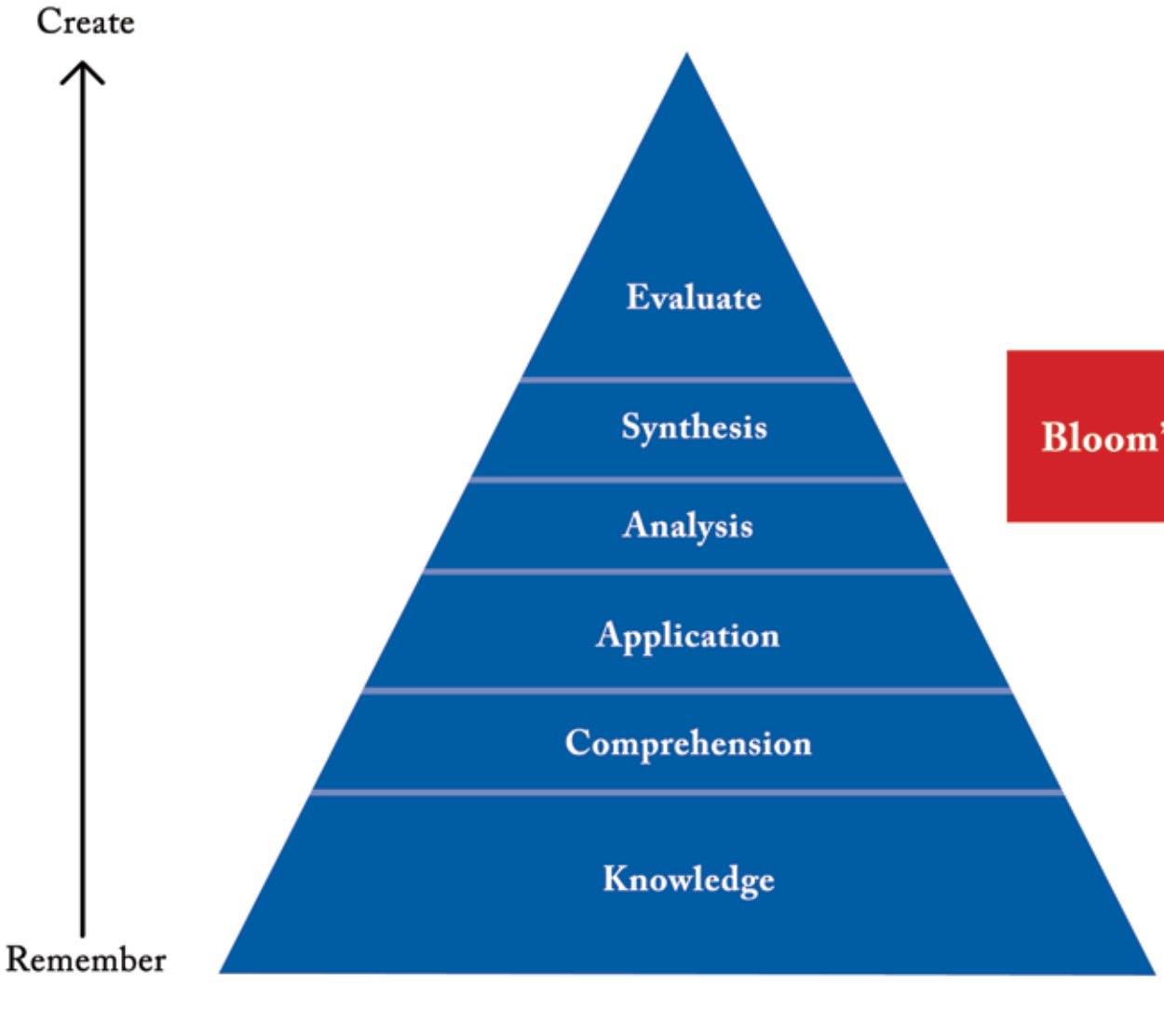
Characteristics of PILOs (Day1)

- Focus on broad skills developed over time
  - *Not restricted to a single course or learning experience*
- Demonstrate acquisition of specific disciplinary/professional
- Knowledge and skills necessary after graduation
  - *Ask: "What makes a graduate of the program able to function and learn in a specific discipline/profession after the degree?"*
- Clear and specific enough to be measureable
- Use "action verbs" to indicate the observable behaviors learners must perform

Action Verbs (Day1)

Action Verbs / Bloom's Taxonomy

1. Knowledge	2. Comprehension	3.Application	4. Analysis	5. Synthesis	6. Evaluation
define	translate	interpret	distinguish	compose	judge
repeat	restate	apply	analyse	Plan	appraise
record	discuss	employ	differentiate	Propose	evaluate
list	describe	use	appraise	Design	rate
recall	recognize	demonstrate	calculate	Formulate	compare
name	explain	dramatize	experiment	Arrange	revise
relate	express	practise	test	Assemble	assess
underline	identify	illustrate	compare	Collect	estimate
	locate	operate	contrast	Construct	
	report	schedule	criticize	Create	
	review	sketch	diagram	set up	
	tell		inspect	organize	
			debate	manage	
			question	prepare	
			relate		
			solve		
			examine		
			categorize		



Bloom's Taxonomy

Note the following (Day1)

- PILOs must be mapped to: PEOs &UILOs
- Make sure the PILOs cover the range of skills, knowledge and competency that you want your graduate to satisfy and that satisfies the PEOs expressed by the constituencies
- Remember the PILOs are the minimum requirements in your graduates. You might have some students who can achieve much more.
- Number PEOs using 1,2,3,…
- Number PILOs using (a), (b), (c), etc.

Example of PILOs (Day1)

Communication

- **Students will be able to communicate information effectively in writing, orally, and graphically**
  - The program will provide opportunities for students to develop students' communication skills
  - The program will provide the teaching/learning activities for students will communicate effectively
  - Students' communication skills will gradually improve over several courses and activities

Example of PILOs (Day1)

Ethics

- **Students will know and apply the ethical responsibility for the field of Bio-medical research**
  - Biology Department will develop ethical standards /procedures to be applied
  - Biology department will develop the ethical responsibility in students.

Example of PILOs (Day1)

Dance

- **Students will display their dancing performance with well-coordinated artistic and technical skills**
    - Students will dance beautifully
    - Students will finish 2 formal performances before graduation

Example of PILOs (Day1)

Research Skills

- **Students will independently design and carry out experimental research and evaluate the results critically**
  - Students will design and carry out research
  - Students have demonstrated high quality research skills

Example of PILOs (Day1)

B.Sc. In Accounting Program

- **Communication skills:** Demonstrate the ability to write clearly, the ability to speak effectively to groups, and the ability to listen effectively.
- **Analytical skills:** Demonstrate comprehension of quantitative techniques for problem solving, and the ability to apply appropriate tools to solve busines problems.
- **Decision-making skills:** Demonstrate comprehension of uncertainty in decision making, and a knowledge of negotiating skills and techniques.
- **Technological skills:** Demonstrate an ability to effectively use word processing, spreadsheet, database and multi-media technologies.

- **Business practices:** Demonstrate comprehension of a market-based economy, comprehension of the global business environment, knowledge of interdependence of business practices, comprehension of different leadership styles and requirements for successful leadership. and knowledge of cultural and economic differences in international business.

- **Interpersonal skills:** Demonstrate comprehension of differences and an ability to relate to people with diverse cultural differences. Demonstrate an ability to apply team building and conflict resolution skills.

- **Ethics:** Demonstrate comprehension of ethical responsibilities of business entities, organizations, and individuals.

- **Financial reporting:** Demonstrate knowledge and understanding of the accounting process, external reporting requirements, interpretation of financial information, and uses of accounting information.

- **Internal reporting:** Demonstrate a knowledge and understanding of the nature and behavior of cost and cost accumulation, the usesof internal accounting information, and planning, control and decision making.

- **Information systems:** Demonstrate a knowledge and understanding of information systems, system design and application, and internal controls and security.
- **Taxation:** Demonstrate a knowledge and understanding of feral income tax laws, regulations, and court decisions, and the tax implications of business forms.
- **Auditing:** Demonstrate a knowledge and understanding of the nature, concepts and procedures related to assurance services, and professional standards

Example of PILOs (Day1)

B.Sc. in Electric Engineering

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs
- An ability to function on multi-disciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global and societal context

- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
- A recognition of the need for, and an ability to engage in life-long learning in Electrical Engineering

Exercises

Use the exercise booklet to develop PILOs

How to design the curriculum to achieve the PEOs (Day1)

Curriculum Process

- Develop Program Intended Learning Outcomes (PILOs)
- Develop Curriculum Contents (courses)
- Develop each course contents (catalog description)
- Distribute the course to faculty according to their area of specialization.

How to design the curriculum to achieve the PEOs (Day1)

- Faculty define the CILOs for the course based on the course contents
- The level of the CILOs should be to the level of the qualification.
- Faculty teach their courses and assess their CILOs.
- The program evaluate the curriculum using the CILOs and PILOs
- Does the program observe the desired outcomes in students?
- Modify/Improve curriculum to achieve the PEOs

Developing Course Intended Learning Outcomes (Day1)

Curriculum Process

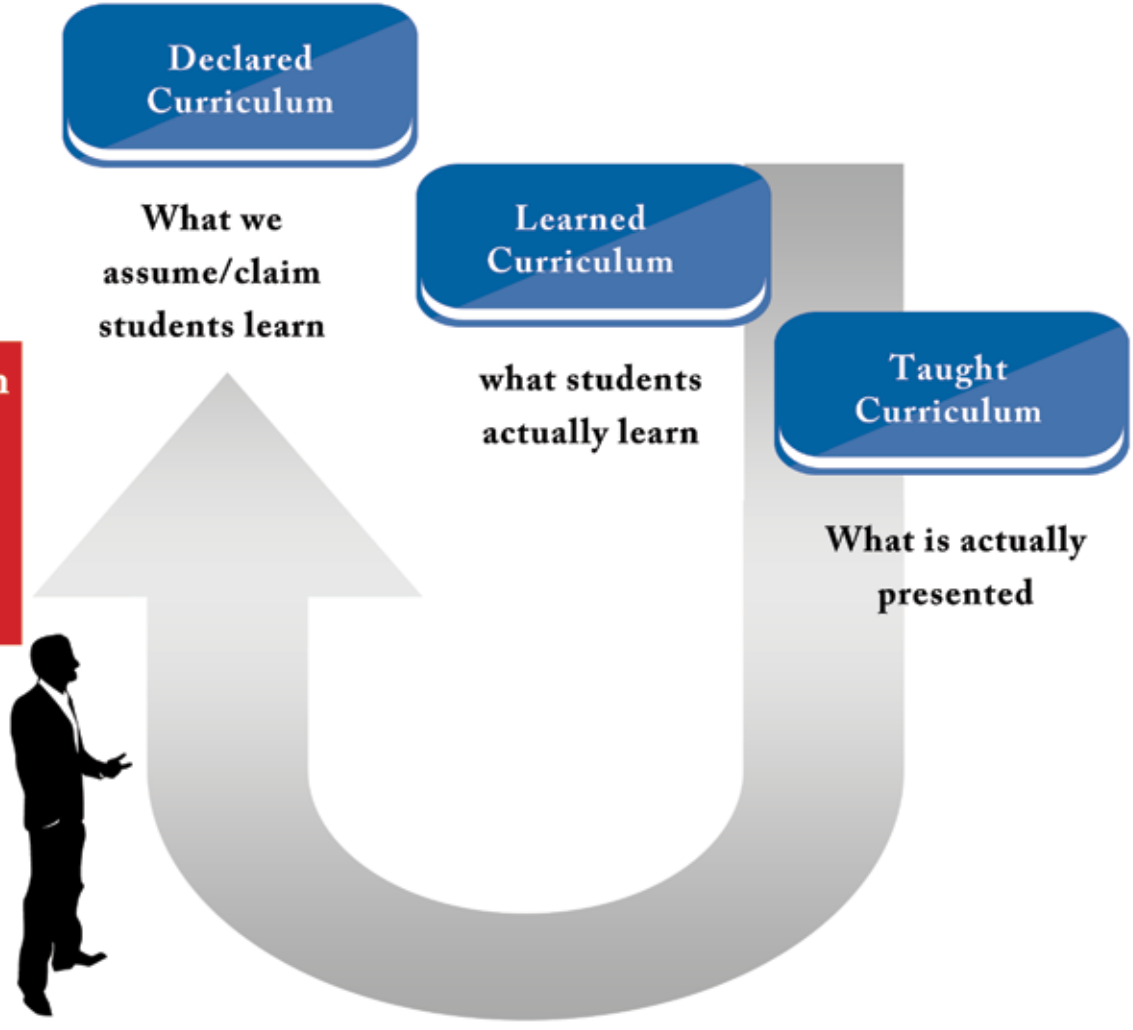
First, answer these questions

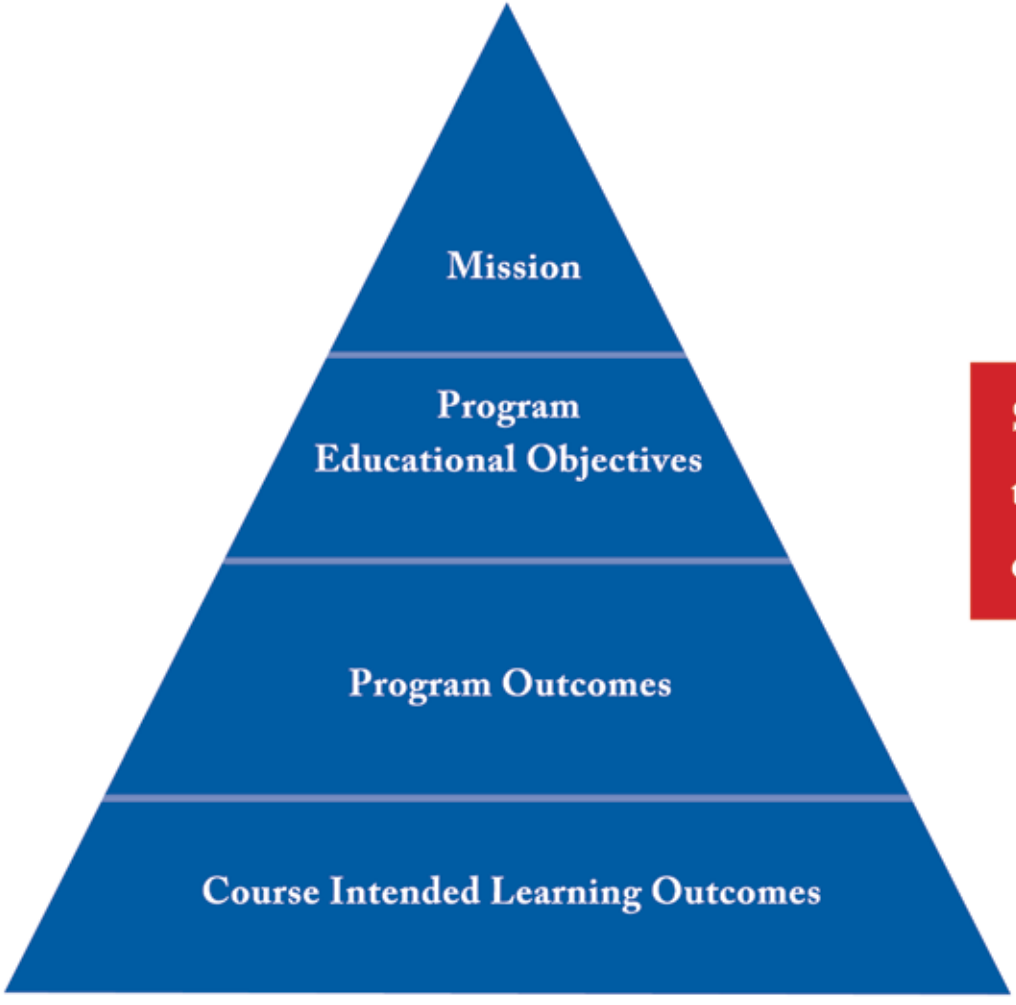
1. What do you really want students to know and learn?

2. What are your students actually learning?

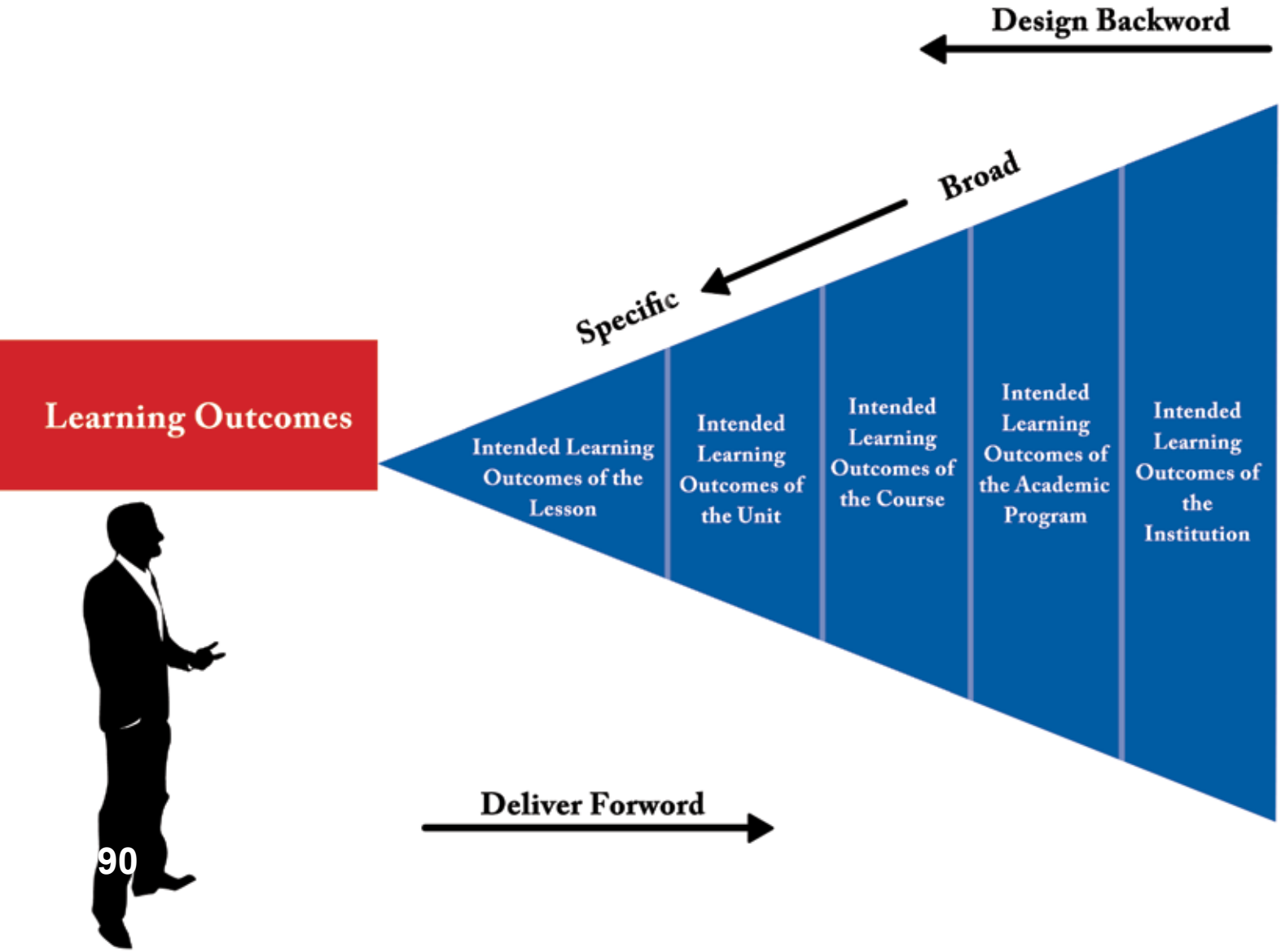
3. What can you do to help students learn what you believe they need to know?

What is Curriculum Alignment? Consistency and Intentionality





So from where does the faculty get course ILOs?


Design Backword
Broad
Specific
Learning Outcomes
Intended Learning Outcomes of the Lesson
Intended Learning Outcomes of the Unit
Intended Learning Outcomes of the Course
Intended Learning Outcomes of the Academic Program
Intended Learning Outcomes of the Institution
Deliver Forword

CILOs for Chemistry 332 (Day1)

Graduates of the CHEMY332 : Practical Physical Chemistry are expected to

- Demonstrate basic analytical techniques in physical chemistry and established principles.
- Apply the principles of experimental methods, basic apparatus, planning of experimental procedures, and the interpretation of the results.
- Apply laboratory skills for experiments, data collection and its analyses.
- Analyze and interpret the experimental data using software.
- Compile the experimental work and compose a written report.
- Criticize each experiment based on the results reported in form of tables and graphs.
- Organize presentation on topics related to their experiments using sources such as library, Internet.

PHYCS365 : Thermal Physics (Day1)

1. To understand the meaning of temperature, internal energy, enthalpy, entropy, multiplicity, partition function and the statistical distributions.
2. To recognize the role of equation of state to explain the thermal processes occurring the ideal and real gases.
3. To apply the thermodynamic laws to extract the definitions of thermal process occurring in matters.
4. To understand the principles behind the heat engines and refrigerators.
5. To imply the free thermal energies in designing theoretical models to explain the physical and chemical changes occurring in the matters.

6. Be aware of thermal physics application into the life.

7. State the macroscopic gas laws relating pressure, volume and temperature.

8. Describe and explain the process of phase changes in terms of molecular behavior.

9. To perform in basis of the multiplicity the different calculations of the various thermal physical properties of the matters.

Bad CILOs

1. To understand the meaning of temperature, internal energy, enthalpy, entropy, multiplicity, partition function and the statistical distributions.

4. To understand the principles behind the heat engines and refrigerators.

7. State the macroscopic gas laws relating pressure, volume and temperature.

Good CILOs

1. To demonstrate the understanding of the meaning of temperature, internal energy, enthalpy, entropy, multiplicity, partition function and the statistical distributions.

4. To understand and apply the first and second law of thermodynamics to heat engines and refrigerators.

7. Apply the macroscopic gas laws relating pressure, volume and temperature.

Knowledge and understanding	Intellectual skills				
1 4 7	2 6 8	3 5 9			
Recalling important information	Explaining important information	Solving closed-ended problems	Solving open-ended problems	Creating 'unique' answers to problems	Making critical judgments based on a sound knowledge base
1. Knowledge	2. Comprehension	3.Application	4. Analysis	5. Synthesis	6. Evaluation
define repeat record list recall name relate underline	translate restate discuss describe recognize explain express identify locate report review tell	interpret apply employ use demonstrate dramatize practise illustrate operate schedule sketch	distinguish analyse differentiate appraise calculate experiment test compare contrast criticize diagram inspect debate question relate solve examine categorize	compose Plan Propose Design Formulate Arrange Assemble Collect Construct Create set up organize manage prepare	judge appraise evaluate rate compare revise assess estimate

Increasing level of cognitive complexity →

Knowledge and understanding		Intellectual skills			
					Making critical judgments based on a sound knowledge base
				Creating 'unique' answers to problems	
			Solving open-ended problems		
		Solving closed-ended problems			
	Explaining important information				
Recalling important information					
1. Knowledge	2. Comprehension	3.Application	4. Analysis	5. Synthesis	6. Evaluation
define	translate	interpret	distinguish	compose	judge
repeat	restate	apply	analyse	Plan	appraise
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	report	schedule	criticize	Create	
	review	sketch	diagram	set up	
	tell		inspect	organize	
			debate	manage	
			question	prepare	
			relate		
			solve		
			examine		
			categorize		

1 4 7

2 6 8

3 5 9

Increasing level of cognitive complexity →

ENGL450: Project Writing (Day1)

1. To demonstrate the ability to organize and carry out independent research.
2. To demonstrate a practical knowledge of techniques for paraphrasing and summarizing.
3. To demonstrate a practical knowledge of techniques for accurately citing and documenting sources.
4. To demonstrate a practical knowledge of the appropriate language required to structure a reasoned argument within the context of an academic paper.
5. Able to write an abstract.
6. Able to compile a bibliography.
7. Able to produce a lengthy piece of coherent writing.

Knowledge and understanding		Intellectual skills			
Recalling important information	Explaining important information	1 2 3 4 Solving closed-ended problems	? Solving open-ended problems	5 6 7 Creating 'unique' answers to problems	Making critical judgments based on a sound knowledge base
1. Knowledge	2. Comprehension	3.Application	4. Analysis	5. Synthesis	6. Evaluation
define repeat record list recall name relate underline	translate restate discuss describe recognize explain express identify locate report review tell	interpret apply employ use demonstrate dramatize practise illustrate operate schedule sketch	distinguish analyse differentiate appraise calculate experiment test compare contrast criticize diagram inspect debate question relate solve examine categorize	compose Plan Propose Design Formulate Arrange Assemble Collect Construct Create set up organize manage prepare	judge appraise evaluate rate compare revise assess estimate

Increasing level of cognitive complexity →

ENGL 431 : Literary Criticism (Day1)

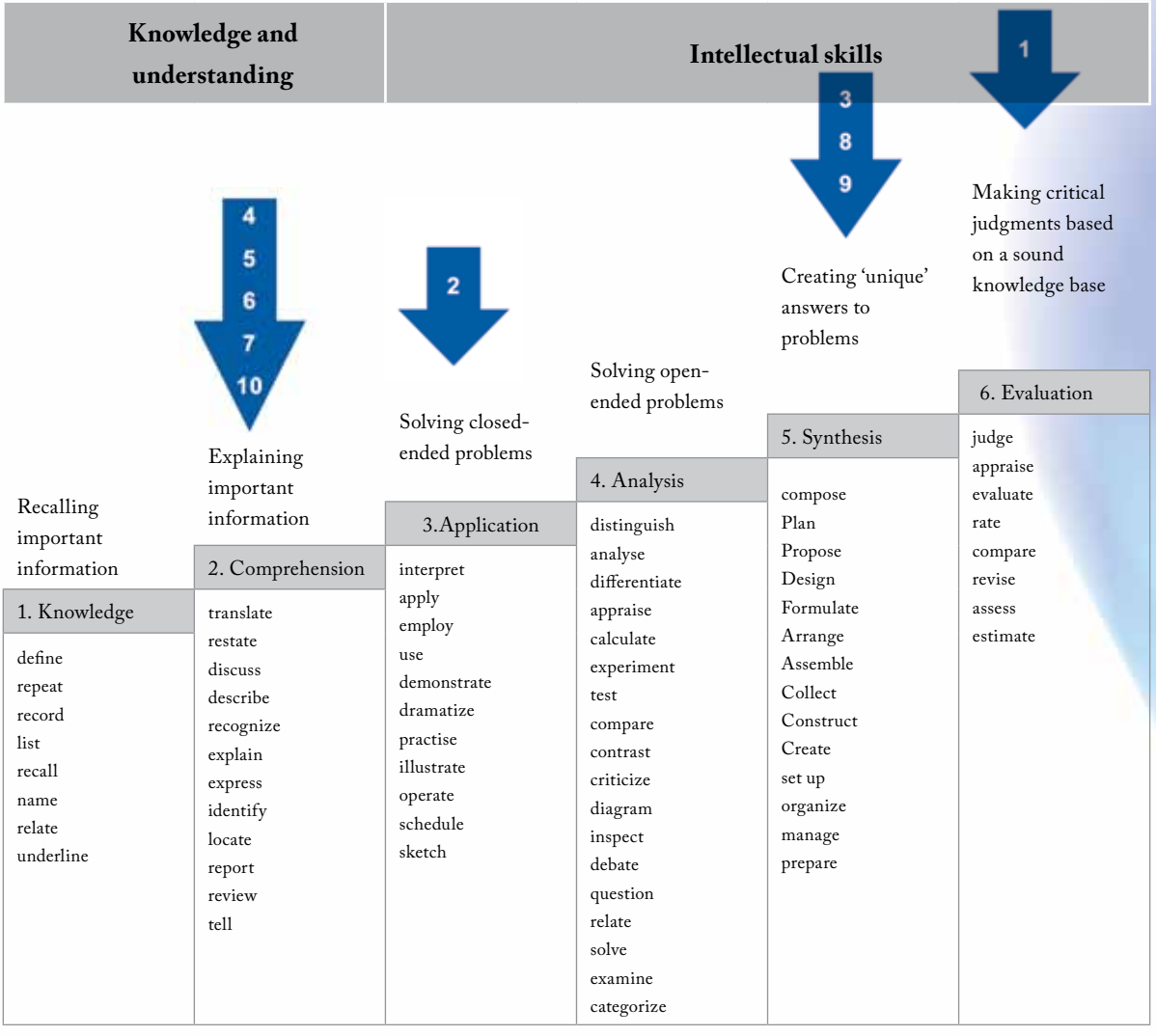
1. Articulate the broader ways in which literary theory applies to their own culture, global culture, and their own lives
2. Demonstrate through written work and in-class comments their ability to apply various theories to works of literature and aspects of contemporary culture.
3. Demonstrates their ability to compare and synthesize the theories presented
4. Identify issues pertaining to literary history and theory.
5. Identify an awareness of the development of theory from classical times to the present.
6. Identify the difference between the various schools of theory.

7. Identify specific constituents of each approach to literary texts.

8. Demonstrate their ability to articulate theoretical concepts orally by their class participation and formal presentation of their final paper.

9. Students will locate, cite, and intelligently incorporate several sources (including print materials) into their final paper and shorter essays.

10. Demonstrate an ability to identify texts stating their period and their main literary features.


Knowledge and understanding
Intellectual skills
1
3
8
9
4
5
6
7
10
2
Making critical judgments based on a sound knowledge base
Creating 'unique' answers to problems
Solving open-ended problems
Solving closed-ended problems
Explaining important information
Recalling important information
6. Evaluation
judge
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distinguish
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compare
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criticize
diagram
inspect
debate
question
relate
solve
examine
categorize
3.Application
interpret
apply
employ
use
demonstrate
dramatize
practise
illustrate
operate
schedule
sketch
2. Comprehension
translate
restate
discuss
describe
recognize
explain
express
identify
locate
report
review
tell
1. Knowledge
define
repeat
record
list
recall
name
relate
underline
Increasing level of cognitive complexity

How are the Course Outcomes written?

Usually,

By the end of this course

The student will be able to:

action verb

+

knowledge or skill with the scope and quality of guidance

Example

The student will be able to:

Determine the output of a system using the convolution integral

Determine — Action verb

the output of a system using the convolution integral — Knowledge or Skill

What are action verbs?

Action verbs = verbs the student can enact and can be measured.

Based on Bloom's Taxonomy

Writing ILO's-Golden Rules (Day1)

Graduates of the CHEMY332 : Practical Physical Chemistry are expected to

- ILOs are written in the future tense
- Do not use too many. Concentrate on the important ones. Six for a course is good
- ILOs should cover the ESSENTIAL points that students need to achieve to pass, so lower level of thinking ILOs may not be added with the presence of higher level of thinking ILOs.
- ILOs should be assessable and achievable
- ILOs should be understood by students.
- ILOs should be related to criteria for assessing levels of achievement in the BQF e.g. undergraduate or postgraduate

How to identify the level of the ILOs (Day1)

There are two factors

- verbs used
- Scope and quality of guidance

Bloom's Taxonomy: ENGL 431 : Literary Criticism (Day1)

Knowledge and understanding	Intellectual skills				
Recalling important information	Explaining important information	Solving closed-ended problems	Solving open-ended problems	Creating 'unique' answers to problems	Making critical judgments based on a sound knowledge base
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	review	sketch	diagram	set up	
	tell		inspect	organize	
			debate	manage	
			question	prepare	
			relate		
			solve		
			examine		
			categorize		

Increasing level of cognitive complexity →

Writing ILO's-Golden Rules (Day1)

For example:

- "Describe" relying on Blooms Taxonomy is under the "Knowledge and Understanding"
- "Analyse" is under intellectual skills
- "Critically" analyse is under intellectual skills

<u>Scope</u> and quality of <u>guidance</u> are as important

How to judge the level of learning outcomes (Day1)

- **Scope** of what students are being asked to do - the detail, the depth of understanding, the amount of complexity, the use and evaluation of different theories and approaches, the amount of uncertainty
- Quality of **guidance** that is involved - how much they will be given by the tutors and how much they are capable of doing things independently

Example: Scope and Quality of Guidance (Day1)

Undergraduate Year 1

- **Analysis:** can analyse with guidance using given classifications /principles;

Final year undergraduate

- **Analysis:** can analyse new and/or abstract data and situations without guidance, using a range of techniques appropriate to the subject

Group Exercise and Discussion (Day1)

Undergraduate Year 1

- **Analysis:** can analyse with guidance using given classifications /principles;

Undergraduate Final year

- **Analysis:** can analyse new and/or abstract data and situations without guidance, using a range of techniques appropriate to the subject.

Masters level

- **Analysis: ??** Can critically analyse, develop original and creative responses, consolidate and extend knowledge, independently with informed judgment, without guidance.

Final remarks on CILO's (Day1)

- CILOs should be learning outcomes not an abbreviation of the course topics
- Avoid joining multiple outcomes of different levels in one CILO to avoid confusion and to make it easy to measure
- Students should see the CILOs from day 1. Try to include them in the course outline.
- Try to link your assessment to the ILOs.

Use the exercise booklet to develop CILOs

Exercises


Assessment
IDEAS
Identify, Mission, PEOs & ILOs
Define Criteria for Success
Evaluate Performance against Criteria
Analyze Assessment Results
Seek Improvements through actions

Day 2

Workshop Summary (Day2)

Today's workshop: Attendees Will be Able to

- Align Teaching and Learning Activities(TLAs), and Assessment with Intended Learning Outcomes(CILOs)
- Design an Assessment Plan by Selecting Appropriate Assessment Methods and Criteria for Achievement of Course Intended Learning Outcomes
- Assess Program Intended Learning Outcomes (PILOs)
- Prepare a Course Portfolio and the arrangements to manage the review of the Course Portfolio

Align CILOs and TLAs with Assessment (Day2)

Today's workshop: Attendees Will be Able to

- Clearly define the Course Intended learning outcomes**(Day1)**
- Select Teaching and Learning methods that are likely to ensure that the learning outcomes are achieved.
- Choose an assessment technique or techniques to assess the achievement of the CILOs
- Assess the Course Learning Outcomes.
- Check to see how well attained Course Learning Outcomes match with what was intended

Design an Assessment Plan by Selecting Appropriate Assessment Methods and Criteria for Achievement of CILOS (Day2)

Attendees will be able to integrate Assessment into the teaching and learning process (constructive-alignment) by

- Devising teaching and learning methods that are likely to ensure that the Course Learning Outcomes are achieved.
- Choosing a technique or techniques to assess the achievement of the learning outcomes.
- Assessing the learning outcomes and checking to see how well they match with what was intended
- Providing clear and rich feedback approach to students to help modify teaching and learning activities, and improve performance of students

Align TLAs and Assessment with CILOS (Day2)

After learning to develop an effective Course Intended Learning Outcomes (CILO's) in ***Day 1,*** *attendees will comprehend how to align Teaching and Learning Activities, and Assessment for a course to ensure that the teaching and learning activities will enable students to achieve the Course Intended Learning Outcomes and that the Assessment methods are designed to assess the learning outcomes.*

If the learning outcomes are clearly written in Day 1, the assessment is quite easy to plan!

Align CILOs and TLAs with Assessment (Day2)

Now We identified CILOs,

- How can we design teaching activities, and learning activities (assignments and examination, etc..) so that we test if learning outcomes have been achieved?
- Do our course work assignments reflect the in-depth nature of learning and reflect the complexity of the discipline
- It is important that the assessment tasks mirror the Learning Outcomes, since as far as the students are concerned, the assessment is the actual learned curriculum
- How to match the method of assessment to the different kinds of learning outcomes

Example: ***a Learning Outcome such as "Demonstrate good presentation skills" could be assessed by the requirement that each student makes a presentation to their peers.***

Align CILOs and TLAs with Assessment (Day2)

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Definition Bloom's Cognitive Domain Course Intended Learning Outcomes (CILO's)	Remember previously learned material	Grasp the meaning of material	Use learning in new and concrete situation	Understand both the content and structure of material	Formulate new structures from existing knowledge and skill	Judge the value of material for a given purpose
1. Demonstrate basic analytical techniques in physical chemistry and established principles.			CILO 1 Demonstrate			
2. Apply the principles of experimental methods, basic apparatus, planning of experimental procedures, and the interpretation of the results.			CILO 2 Apply Interpret		CILO2 Plan	
3. Apply laboratory skills for experiments, data collection and its analyses.			CILO 3 Apply	CILO 3 Analyze		
4. Analyze and interpret the experimental data using software.			CILO4 Interpret	CILO4 Analyze		
5. Compile the experimental work and compose a written report.			CILO 5 Compile		CILO 5 Compose	
6. Criticize each experiment based on the results reported in form of tables and graphs.				CILO 6 Criticize		
7. Organize presentation on topics related to their experiments using sources such as library, Internet.					CILO 7 Organize	

Mapping of Course Intended Learning Outcomes and Teaching and Learning Activities (Day2)

CILOs	Course Material	Teaching Activities	Learning Activities	Assessment Task
1. Demonstrate basic analytical techniques in physical chemistry and established principles.	Overview Physical chemistry principle and Basic analytical techniques	Lectures, Tutorials	Reading, review analytical techniques and problem solving CILO 1 Demonstrate	Exercises (5%)
2. Apply the principles of experimental methods, basic apparatus, planning of experimental procedures, and the interpretation of the results.	Experimental methods, experimental planning procedure and interpretation of results	Lectures plus Lab-based experiment	Reading, experimental data interpretation and lab report write-up	Lab report(5%), Lab Test (5%)
3. Apply laboratory skills for experiments, data collection and its analyses.	Experiments data collection and analysis	Lectures discuss data analysis and Lab-based report	Reading, practice data analysis	Lab Test(5%) , lab report (5%)
4. Analyze and interpret the experimental data using software.	Experimental data interpretation using software	Lectures; experimental data analysis using software	Reading, data interpretation	Assignments(5%)
5. Compile the experimental work and compose a written report.	Experimental work compilation, report writing	Lectures; Lab-based report	Reading, report writing	Lab report (5%), exam (5%)
6. Criticize each experiment based on the results reported in form of tables and graphs.	Data tabulation, graphs and critiques	Lectures; Lab-based report	Learn to Graphs and tabulate data	Lab report(5%)
7. Organize presentation on topics related to their experiments using sources such as library, Internet.	Presentation of experimental results using different sources	Lectures; Lab-based research project; Oral presentation	Prepare oral presentation and prepare project report	Project report (10%); Oral presentation (5%)

Evaluation of Assessment Tasks (Day2)

Assessment Task	Description	Assessment Criteria
Exercises	Students are expected to solve and submit assigned HW	Problem solving skills Critical thinking skills
Lab Report		Data evaluation and analysis
Lab test	Practical lab test is assigned	to demonstrate laboratory skills
Project (lab-based)	Students are asked to prepare lab-based research project	All of the above plus Writing skills
Exam	Two examination, midterm: 10% multiple choice, 90% three long questions, final: comprehensive to cover all semester with10% multiple choice, 90% five long questions. Final exam is 40% of total mark.	MC questions are composed of both conceptual and experimentation questions. Long questions are composed of theory-type and experimental data analysis, critiques, critical thinking skills

Balancing Assessment with CILOs (Day2)

- Too much Assessment
- Reasonable Assessment
- Few Assessment
- Too many CILOs
- Reasonable number of CILOs
- Few CILOs

Assessment of CILOS (Day2)

Now: ***We define CILOs, select TLAs, Assignments, Grades, What is next?***

- How will I know if my students have achieved the desired learning outcomes?
- How will I measure the extent to which they have achieved these learning outcomes?
- How can I used the graded assignments and exams to measure it?

Assessment of CILOS using Excel Sheet (Day2)

- Define criteria of achievement of CILOs
- Map each assignment question to your CILOs
- Record your students assignment marks by question
- Average the marks for each question
- Map the question marks average to its corresponding CILO
- Substitute the average grade for the CILO in CILOs Map

Link to Excel Sheet (1)

Assessing Program Intended Learning Outcomes (PILOs) (Day2)

Provides an effective strategy for articulating, aligning and integrating PILOS across a sequence of courses(curriculum mapping), and explicitly identifying to students, instructors, administrators and external stakeholders how student learning outcomes are delivered and assessed within a degree program. Several assessment methods will be covered, including:

1. Direct assessment using Performance Indicators (PI's)and Rubric
2. Indirect assessment method using the results of CILOs assessment
3. Direct/indirect assessment method using Course Portfolio review and audit.

Direct assessment of Program Intended Learning Outcomes (Day2)

- **Direct assessment involves** ***actual observation*** or measurement of student performance using assignments, projects, tests, presentations, classroom activities, etc.
- **Indirect assessment** involves ***reflection*** upon and ***opinion*** of a student's abilities or achievement by the student or others using instruments such as surveys and interviews.
    - *Direct assessment of learning outcomes is expected*
    - *Indirect assessment data may supplement direct assessment data.*
- **Evaluation describes what is done with the data:** *involves interpreting the data and evidence accumulated through assessment practices*. results in ***decisions*** and ***actions*** to improve the program.

Indirect Assessment of PILOs Using the Results of CILOs Assessment (Day2)

Mapping of Curriculum CILOS to PILOs

	a	b	c	d	e	f	g	h
CHEMY101	x	x	x	x			x	x
CHEMY102	x	x	x	x			x	x
CHEMY103	x			x	x	x		x
CHEMY211	x	x	x	x			x	
CHEMY231	x	x	x	x	x	x	x	x
CHEMY241	x	x	x				x	x
CHEMY311	x					x		
CHEMY312		x	x	x	x	x	x	x
CHEMY321	x				x	x	x	x
CHEMY322	x	x	x	x	x	x	x	x
CHEMY323	x		x	x	x		x	
CHEMY331	x		x	x	x	x	x	
CHEMY332	x	x	x	x	x		x	x
CHEMY341	x		x		x	x	x	

Link to Excel Sheet (2)

Direct Assessment of PILOs using Performance Indicators (PIs) and Rubrics (Day2)

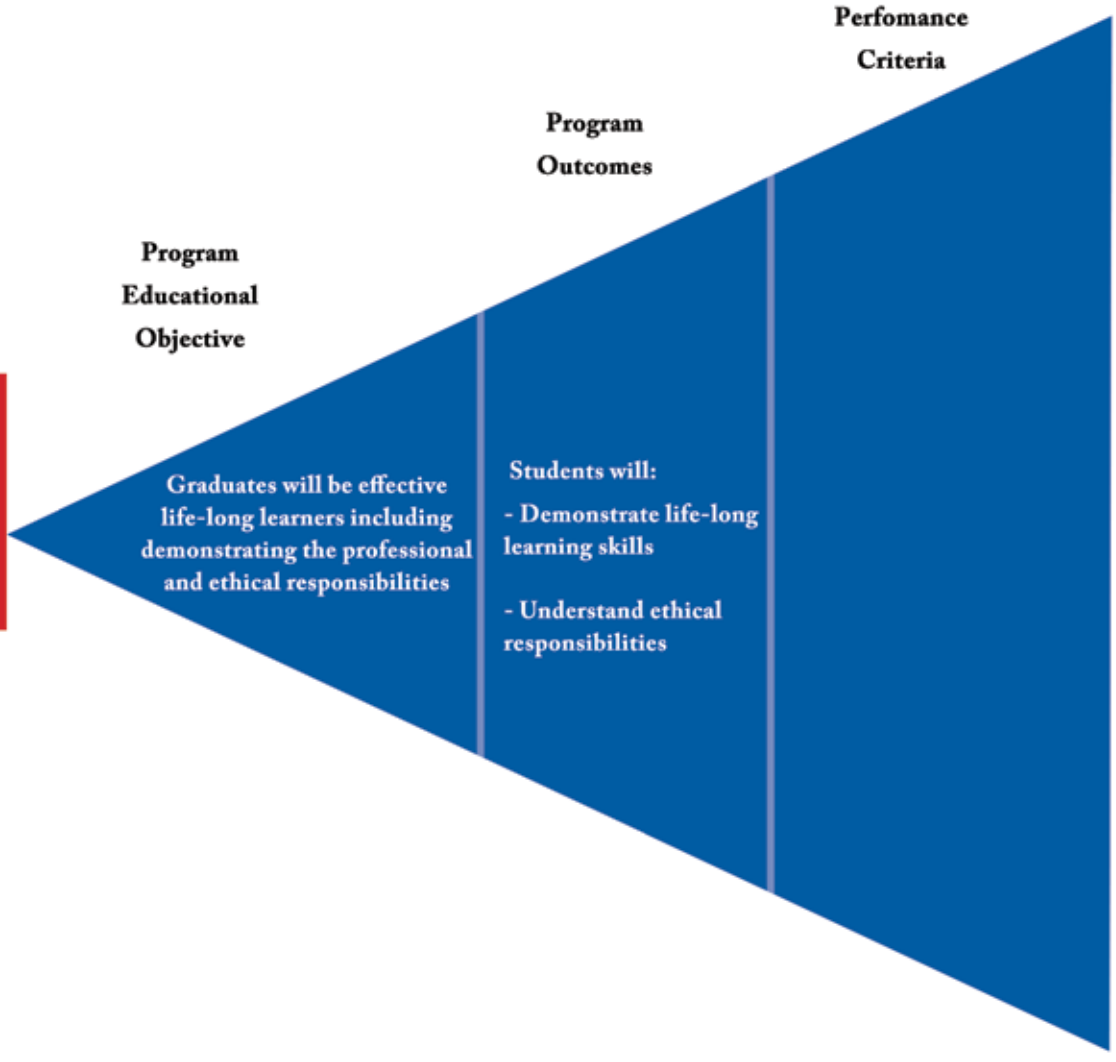
Parsing of PILOs into components

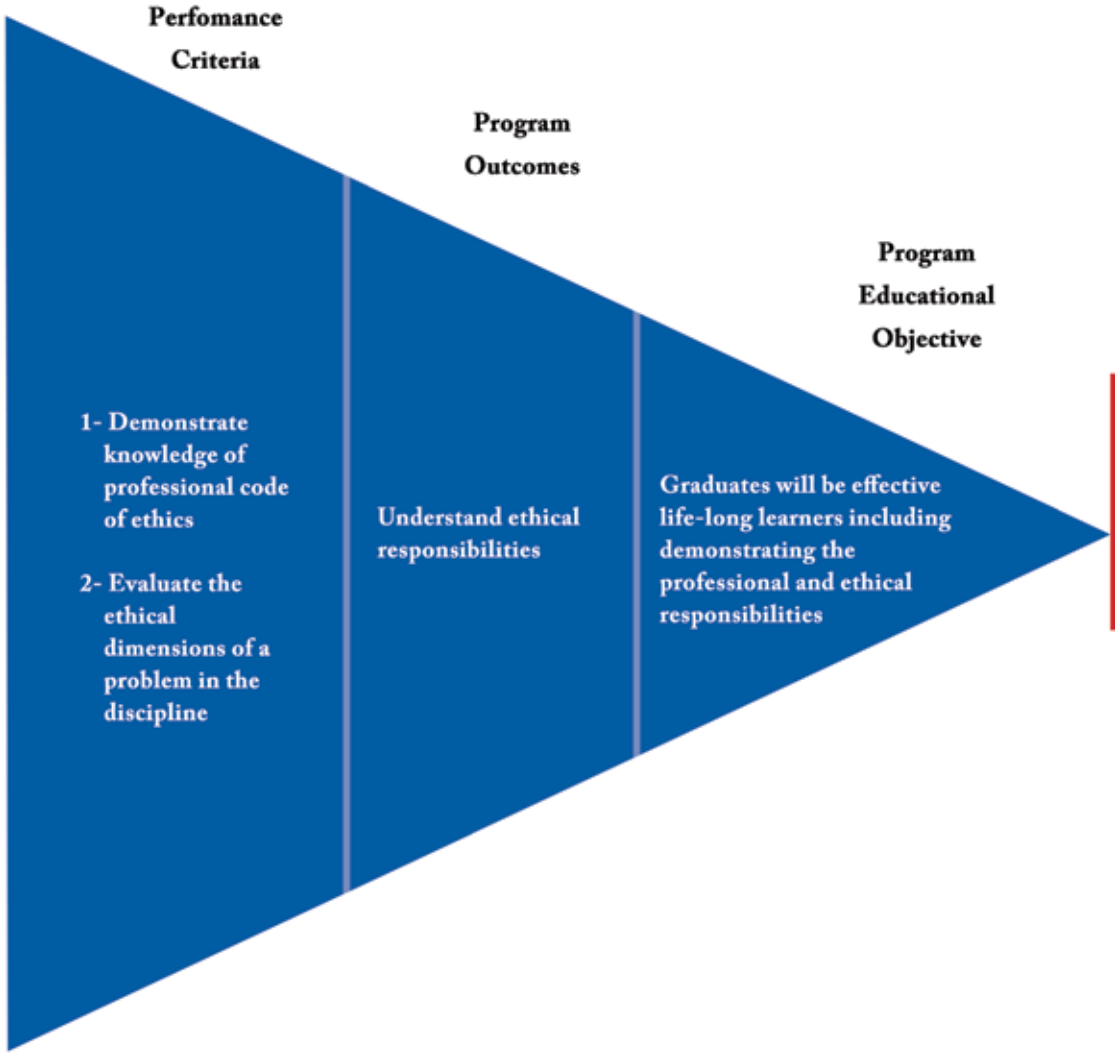
- Develop PIs for Assessment
- Develop PIs for all PILOs
- Develop Assessment Rubrics using your courses ILOs

Performance Indicators for Assessment (Day2)

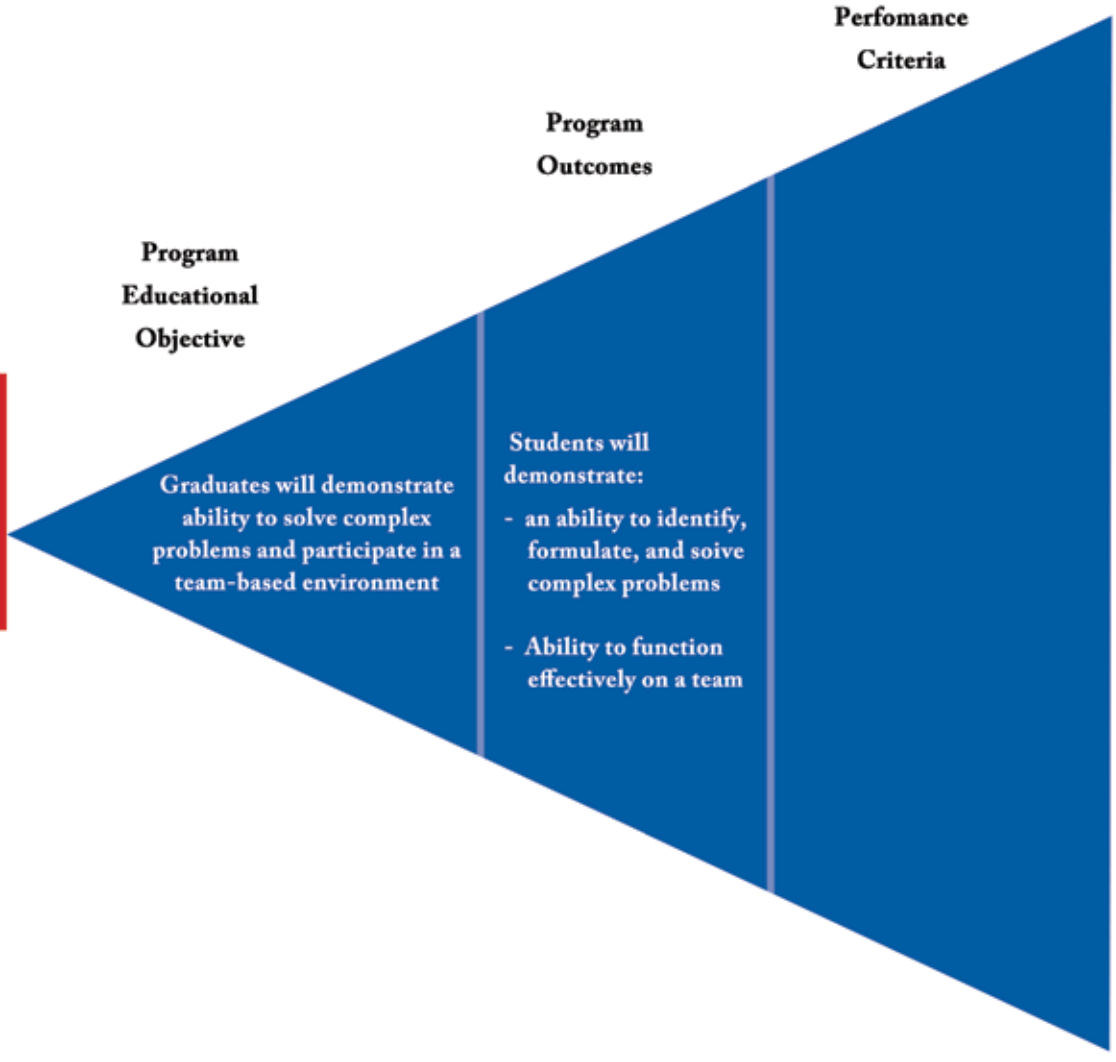
- Specific components of an outcomes are known as PIs .
- PIs are narrower and more specific statements and therefore they are easier to measure.
- Performance indicator are specific, measurable statements identifying the performances required to meet the outcome; confirmable through evidence

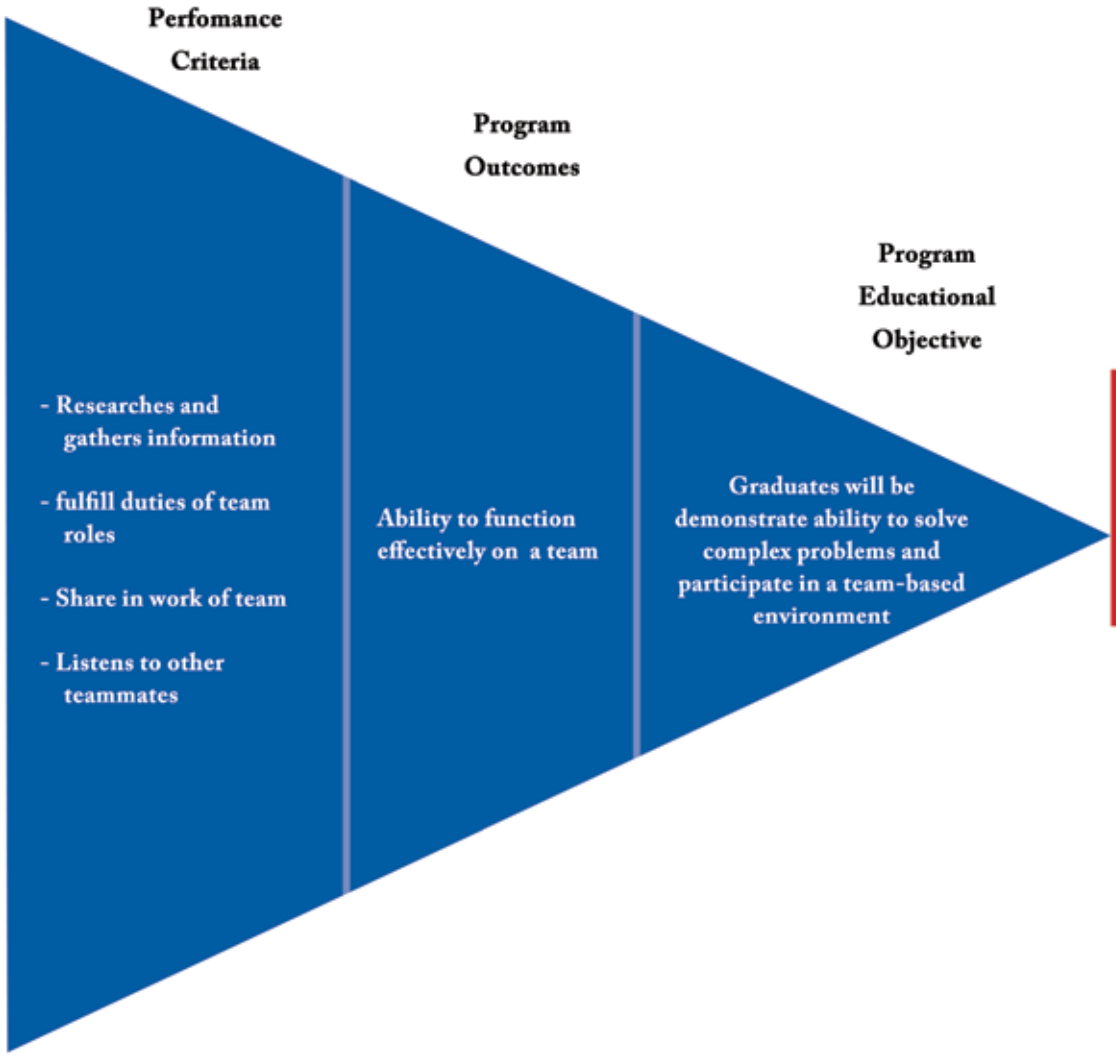
Performance Indicators for Assessment




Perfomance Criteria
Program Outcomes
Program Educational Objective
1- Demonstrate knowledge of professional code of ethics
2- Evaluate the ethical dimensions of a problem in the discipline
Understand ethical responsibilities
Graduates will be effective life-long learners including demonstrating the professional and ethical responsibilities
Performance Indicators for Assessment

Performance Indicators for Assessment




Perfomance Criteria
Program Outcomes
Program Educational Objective
- Researches and gathers information
- fulfill duties of team roles
- Share in work of team
- Listens to other teammates
Ability to function effectively on a team
Graduates will be demonstrate ability to solve complex problems and participate in a team-based environment
Performance Indicators for Assessment

Developing Performance Indicator (Day2)

- Develop PIs by considering the essential goals of your program with respect to each of the PILOs
- Use an action verb to describe the goal.
- For initial assessment cycle, write at least one and preferably two or three PIs for each outcome.

Example of Performance Indicators

(Pick one or more of the examples or write your own) Day2)

PILO: ***Communication***

Program must demonstrate that their graduates have an ability to communicate effectively both orally and in writing.

Performance Indicator(examples)

- Communicates effectively in individual oral presentations.
- Communicates effectively in group oral presentations.
- Communicates effectively in written technical reports and memos.
- Communicates effectively in written non-technical reports.
- Communicates effectively in email communications.

Assessment Instruments for Performance Indicators Day2)

- In general, the PIs describe what you are already doing in your program.
- Use the Curriculum mapping Table "required courses versus PILOs" to match each PI to a course (or courses) for assessment.
- Course instructors select an assessment instrument (assignment, research paper, test question, etc.) to use for each PI matched to that course.

Assessing Performance Indicator (Day2)

- A numerical score such as the percentage of problems correct on an exam or portion of an exam may be appropriate for "applies knowledge of statistics."
- A rubric would be a more appropriate method to use for "communicates effectively in group oral presentations."

Developing Rubrics (Day2)

- **Steps:**
  - Break PIs into categories.
  - Describe levels of achievement for each category based on expectations-typically 3 or 4 levels

See example …

Metrics for Performance Indicator (Day2)

- Metrics define the level of accomplishment required for a PI to be considered achieved or met for your program.
- **Examples:**
  - Using rubric: PI is satisfied if 75% of students meet or exceed expectations in all categories of the PIs .
  - Using score: PI is satisfied if 75% of students receive 8/10 or better on test question #4.
- Thresholds must also be set for learning outcomes in terms of results on PIs .
- **Examples:**
  - Learning outcome is satisfied if all PIs for that outcome are met.
  - Learning outcome is satisfied if two of the three PIs for that outcome are met.

Program Intended Outcomes Parsing (Day2)

Program Outcome (e):

(e) An ability to identify, formulate, and solve computer engineering problems

Performance Indicators: Student are able to;

PI(e) 1: identify, and specify a computer engineering problem

PI(e) 2: identify concepts, analysis techniques, and development tools used in solving a computer engineering problem

PI(e) 3: Apply the principles and practices of engineering towards solving a computer engineering problem.

Program Outcome (f):

(f) An understanding of professional and ethical responsibility

Program Intended Outcomes Parsing (Day2)

Performance Indicators: Student are able to:

PI(f) 1: Demonstrate an understanding of the professional and ethical issues relevant to computer technology and practices

PI(f) 2: Demonstrate professional and ethical conduct

B.Sc. in Computer Science Program Outcomes and Performance Indicators (Day2)

PI(a)-1	Identify and formulate a computing problem
Measures	**Embedded Questions**
A-Identify the problem requirements from a given problem specification	ITCS311, ITCS102
B-Mathematically formulate a computing problem	ITCS101
PI(a)-2	Use knowledge of computing to solve problems
Measures	**Embedded Questions**
A-Solve and implement a programming problem form a given computation model using procedural and/or object oriented programming approach	
B-Use algorithmic knowledge to present a feasible algorithmic solution to a problem	ITCS215

PI(a)-3	Use mathematics (such as discrete math, combinatorics, or calculus) to solve problems
Measures	**Embedded Questions**
A-Design an efficient algorithm using mathematical knowledge	ITCS345
B-Solve discrete mathematical problems	ITCS251
C-Analyze the running time of an algorithm	ITCS345
CSPO(b): an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;	
CSPI(b)-1	Analyze a given problem
Measures	**Embedded Questions**
A-Formulate (sketch) the problem specifications from the problem definition	ITCS 311
B- Identify the inputs of a problem	ITCS 311
C- Define the outputs of a problem	ITCS 311
D- Identify data and processing requirements of a problem/system	ITCS385, ITCS101
CSPI(b)-2	Identify and define the computing requirements for a given problem

B.Sc. in Computer Science Program Outcomes and Performance Indicators (Day2)

Measures	Embedded Questions
A-Define data types and data structures needed for a given computing problem	ITCS215
B- Specify the software tools needed for a given problem/ software development: language, packages, OS, ...	ITCS499
C- Specify the hardware requirements for a computer based system	ITCS311
PILO(c): an ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs;	
PI(c)-1	Design a computer-based system, process, component, or program to meet desired needs;
Measures	**Embedded Questions**
A- Design a program from a problem statement	ITCS101
A- Design a component or a process to meet desired needs	ITCE202, ITCS102
B- Design a computer-based system to meet desired needs	ITCS385

B.Sc. in Computer Science Program Outcomes and Performance Indicators (Day2)

PI(c)-2	Implement a computer-based system, process, component, or program to meet desired needs;
Measures	**Embedded Questions**
A- Implement a component or a program to meet desired needs	ITCS341
B- Implement a process to meet desired needs	ITCS385, ITCS420
C- Implement a computer-based program to meet desired needs [delete]	ITCS351, ITCS102
D- Implement a computer-based system to meet desired needs	ITCS499
PI(c)-3	Evaluate a computer-based system, process, component, or program;
Measures	**Embedded Questions**
A- Test and evaluate a computer-based system or program [delete] to meet desired needs	ITCS420, ITCS499
B- Test a computer based component	ITCS420, ITCS499

B.Sc. in Computer Science Program Outcomes and Performance Indicators (Day2)

PILO(f): an ability to communicate effectively An ability to communicate effectively with a range of audiences	
PI(f)-1	Demonstrate effective oral communication skills and tools
Measures	**Embedded Questions**
A-Make oral presentation using effective nonverbal behavior (eye contact and movement)	ITCS499
B-Speak clearly and uses appropriate technical terminology	ITCS499
C-Use presentation tools/software and props/audio-visual equipment	ITCS499
D-Respond well to questions	ITCS499
CSPI(f)-2	Demonstrate effective use of written communication skill and tools
Measures	**Embedded Questions**
A- Use correct grammar and vocabulary in written reports	ITCS499

B- Write well structured technical report using correct structure of a technical report (objectives, procedures, results and conclusions, graphs and tables correctly presented)	ITCS499
C- Correctly use and present literature and references (does not resort to plagiarism, selects the literature relevant to his work, refers to the references and sources of the literature) [delete]	ITCS499
D- Uses appropriate software tools for producing a written report	ITCS499
CSPILO(h): recognition of the need for, and an ability to engage in, continuing professional development	
CSPI(h)-1	Understand the importance of professional development
Measures	**Embedded Questions**
A- Recognize the importance of continuous professional development. [how]	ITCS499
B- Awareness of the dynamic evolving nature of IT and the rapid changes in the skills needed in IT. [how]	ITBIS251 ITCS499
C-Participates in professional society and/or attends workshops, courses, lectures, etc..	Senior Exit Survey

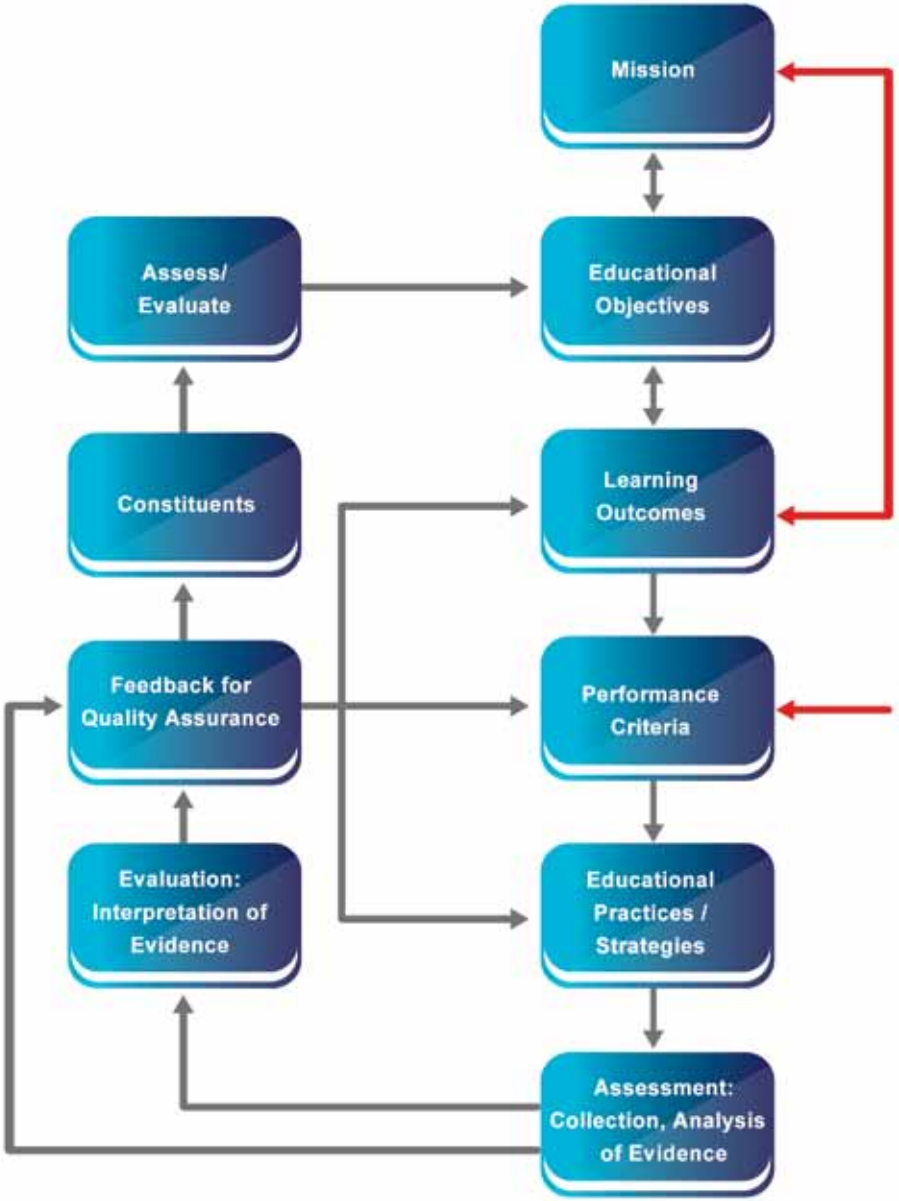
B.Sc. in Computer Science Program Outcomes and Performance Indicators (Day2)

CSPI(h)-2	Independently identify and use information sources (such as the Internet or the library) to accomplish a given assignment
Measures	**Embedded Questions**
A-Uses information sources independently to complete a given assignment.	ITCS373
B-Demonstrates the use of research skills by producing literature review, data analysis and …..	Generic skills/Seminar
C-Complete a given task using individual skills or by locating and using external resources.	
CSPI(h)-3	Independently use software tools not covered within the curriculum
Measures	**Embedded Questions**
A- Write/develop program/system using Learn new programming languages, tools and techniques independently.	ITCS332
B- Able to learn software development tools or techniques independently. [remove]	ITCS373

What is a rubric? (Day2)

A scoring guideline that measures student achievement systematically:

- Explicitly specifies instructor expectations for student performance
- They may lead to a grade or be part of the grading process but they are more specific, detailed, and disaggregated than a grade.
- Rubrics provide the characteristics for each level of performance "indictor" on which student performance should be judge.
- describes levels of quality (how well they performed) and what they need to accomplish in the future to better performance.


Mission
Assess/ Evaluate
Educational Objectives
Constituents
Learning Outcomes
Feedback for Quality Assurance
Performance Criteria
Evaluation: Interpretation of Evidence
Educational Practices / Strategies
Assessment: Collection, Analysis of Evidence

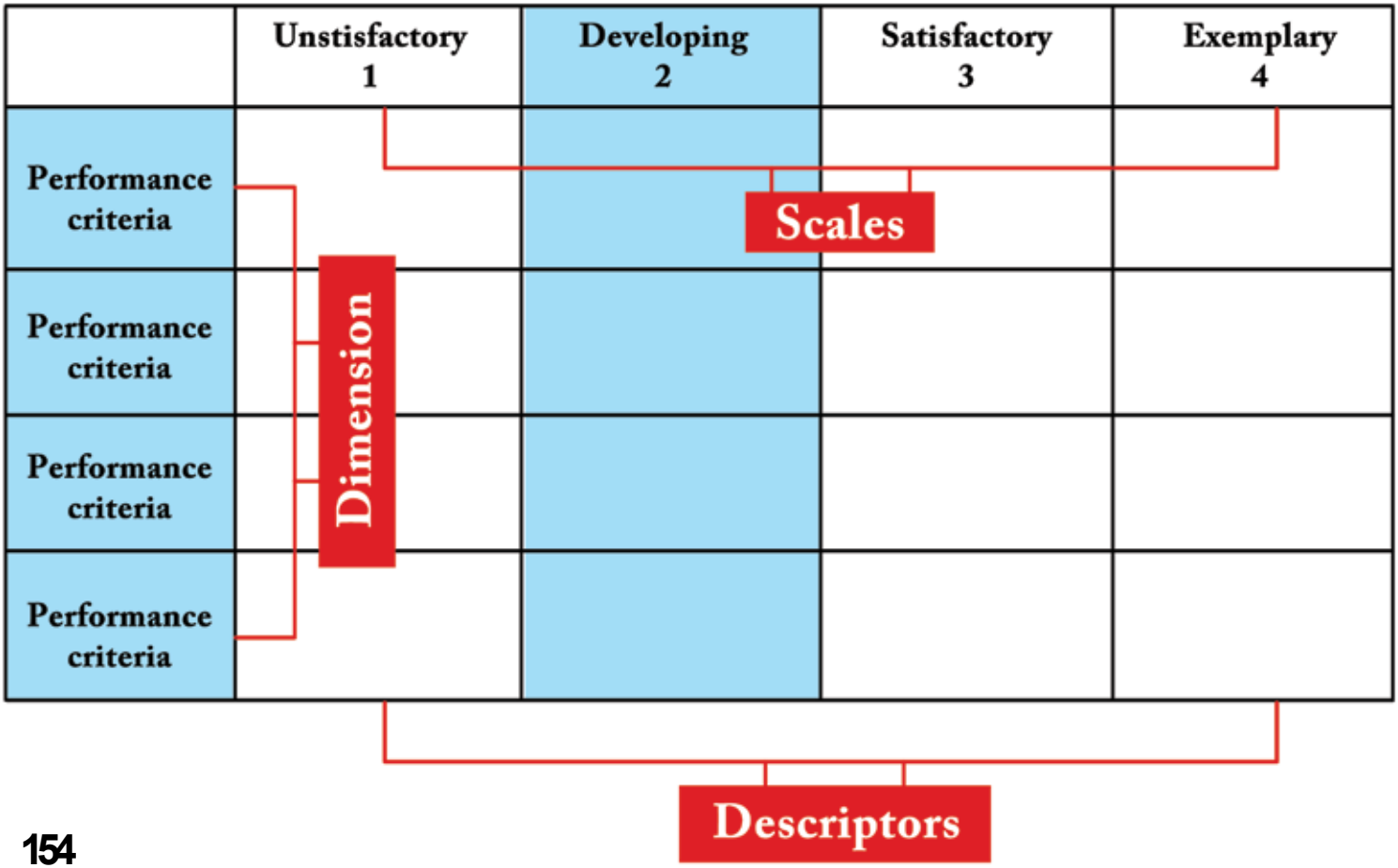
Rubrics

Rubrics Components (Day2)

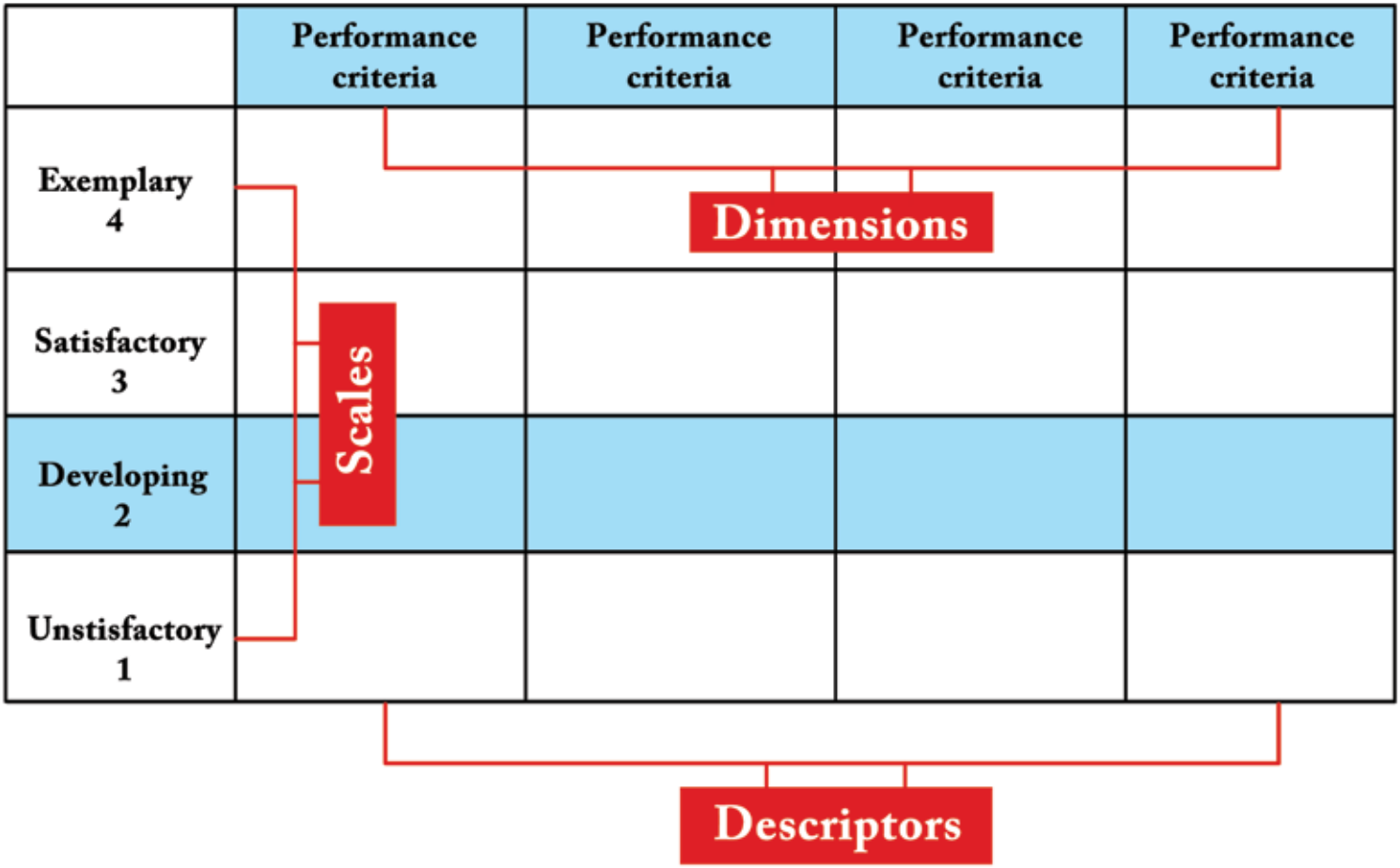
A scoring guideline that measures student achievement systematically:

- **Dimensions (performance criteria)**
  - Standards that identify the range of quality or performance levels
- **Scale (level of performance)**
  - Example: 5 = outstanding 3 = acceptable 1 = poor
- **Descriptors**
  - identify performance expectation for each point on the scale

Communication Skills (Day2)



Communication Skills (Day2)



Critical Thinking Rubric Scale (Day2)

1----------[2--3--4]----------5

A. Is unable to analyze information, questions, and problems or does so superficially

B. Is unable to or infrequently uses inference to reason from clearly stated premises or recognize implications and consequences

C. Is unable to or infrequently uses deductive and inductive reasoning and problem-solving skills

A. Clearly and precisely analyzes key information, questions, and problems

B. Uses inference to reason carefully from clearly stated premises to important implications and consequences

C. Uses deductive and inductive reasoning and problem-solving skills consistently and with ease

Rubric Example (Day2)

Program Outcome (C)

CE-PO(C): An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

Performance Indicator: CE-PI (C) 2

CE-PI (C)2: Design a component to meet desired needs

Rubric Example

Performance Measures	Poor 1	Fair 2	Good 3	Excellent 4	Score
A – Design a component to meet desired needs in digital logic design.	Sample shows little ability to achieve the performance measure	Sample shows some ability to achieve the performance m easure	Sample shows an ability to achieve the performance measure, though with difficulty	Sample shows an ability to achieve the performance measure	
B – Design a component to meet desired needs in computer organization.	Sample shows little ability to achieve the performance measure	Sample shows some ability to achieve the performance measure	Sample shows an ability to achieve the performance measure, though with difficulty	Sample shows an ability to achieve the performance measure	
C – Design a component to meet desired needs in computer architecture.	Sample shows little ability to achieve the performance measure	Sample shows some ability to achieve the performance measure	Sample shows an ability to achieve the performance measure, though with difficulty	Sample shows an ability to achieve the performance measure	
				Total Score	

Actions for Direct Assessment

CE-PI(C) 2-A : Include an embedded assignment in the "Digital Logic Design" course that shows the way in which students can design a component to meet desired needs in digital logic design. Select a random sample of teams. Evaluate the sample by considering the maturity of the activity.

CE-PI(C) 2-B :Include an embedded assignment in the "Computer Organization" course that shows the way in which students can design a component to meet desired needs in computer organization. Select a random sample of teams. Evaluate the sample by considering the maturity of the activity.

CE-PI(C) 2-C : Include an embedded assignment in the "Computer Architecture" course that shows the way in which students can design a component to meet desired needs in computer architecture. Select a random sample of teams. Evaluate the sample by considering the maturity of the activity.

Criterion for Performance Indicator Success

At least 70% of the students rate a 3 or better for all performance categories and no more than 10% score a 1 for a given measure

Example of Team Rubrics (Day2)

Team Rubrics	1	2	3	4
Cooperative	Will not help -- ignores partner	Sometimes willing to help partner	Shares work when asked and listens to partner	Willingly explains things to partner and will use partner's ideas
Creative	Never thinks of other ideas to solve a problem	Occasionally has a new idea, but little follow through	Has new ideas but will not share with others	Develops new ideas or ways of doing things. Products exceed requirements
On Task	Consistently talking to others in room, rarely works on task	Sometimes talks about unrelated subjects	Usually follows the task and talks only to partner	Always follows the steps of the task and sometimes goes beyond the concepts
Prepared	Never has supplies or willing to find proper place in task	Looks through to task to find place and sometimes borrows supplies	Uses daily wrap-up to find place in task	Arrives early for class and supplies are ready
Skillful	Makes no effort to learn new skills	Satisfies with answering questions, but no real understanding	Has general idea of task. Able to answer specific questions.	Has clear idea of task and its relationship to technology and education

Example of Communication Rubrics (Day2)

Performance Criterion	Communicates effectively in group oral presentations.			
Category of Assessment	**Minimal Evidence**	**Below Expectations**	**Meets Expectations**	**Exceeds Expectations**
Organization	Little or no evidence of organization.	Presentation is difficult to follow. Main points and conclusion are unclear. Transitions between speakers occur at illogical points in the presentation.	Presentation can be followed with relative ease. Main points are obvious. Transitions between speakers occur at logical points in the presentation.	Clear introduction. Main points presented and argued. Flow of argument is logical. Transitions between speakers occur at strategic points in the presentation.
Visual Presentation	Little or no effort in developing presentation. Speakers inappropriately dressed or disengaged.	Boring or confusing slides and/or props. Little effort in developing an effective presentation. Team members not engaged when not speaking.	Adequate slides and/or props. Visual presentation is reasonably effective. Team members attentive while teammates speak.	Creative slides and/or props. Effort made to make visual presentation effective. Team members engaged while teammates speak.

Example of Communication Rubrics (Day2)

Performance Criterion	Communicates effectively in group oral presentations.			
Category of Assessment	**Minimal Evidence**	**Below Expectations**	**Meets Expectations**	**Exceeds Expectations**
Relating to Audience	Makes little or no effort to look at audience or respond to questions.	Poor eye contact. Reads or stumbles through presentation. Poor responses to questions.	Appropriate eye contact. Some modification of material to audience reaction. Responds appropriately to questions.	Engages audience. Aware of audience reaction. Responds well to questions.
Teamwork	Some team members make no contribution to presentation. Presentation is dominated by one speaker.	Some speakers tend to dominate presentation while others make minimal contribution.	Material is divided fairly among speakers.	Division of material is strategic and logical and adds to the effectiveness of the presentation.

Example of Communication Rubrics (Day2)

Performance Criterion	Communicates effectively in group oral presentations.			
Category of Assessment	**Minimal Evidence**	**Below Expectations**	**Meets Expectations**	**Exceeds Expectations**
Transitions	No evidence that speakers have plan for transition. Transitions are awkward or no transitions are made. Speakers are uncertain why they are there.	Transitions between speakers are rough and distracting. Speakers are uncertain what is coming next.	Transitions between speakers are relatively comfortable and occur with minimum distraction.	Transitions between speakers are exceptionally well-planned and orchestrated. Transitions enhance presentation.

Writing Rubric II (Day2)

TRAIT	Unacceptable	Acceptable	Exemplary	Score
Logic & Organization	Does not develop ideas cogently, uneven and ineffective overall organization, unfocused introduction or conclusion	Develops unified and coherent ideas within paragraphs with generally adequate transitions; clear overall organization relating most ideas together, good introduction and conclusion.	Develops ideas cogently, organizes them logically with paragraphs and connects them with effective transitions. Clear and specific introduction and conclusion.	
Language	Uses words that are unclear, sentence structures inadequate for clarity, errors are seriously distracting	Word forms are correct, sentence structure is effective. Presence of a few errors is not distracting.	Develops concise standard English sentences, balances a variety of sentence structures effectively.	

Continue … Writing Rubric II (Day2)

TRAIT	Unacceptable	Acceptable	Exemplary	Score
Spelling and Grammar	Writing contains frequent spelling and grammar errors which interfere with comprehension	While there may be minor errors, the writing follows normal conventions of spelling and grammar throughout and has been carefully proofread	The writing is essential error-free in terms of spelling and grammar	
Purpose	The purpose and focus of the writing are not clear to the reader	The writer has made good decisions about focus, organization, style, and content so as to achieve the purpose of the writing.	The writer's decision about focus, organization, style, and content fully elucidate the purpose and keep the purpose at the center of the piece	

Writing Rubric II (Day2)

TRAIT	0-1	2-3	4-5	6-7	Score
Logic & Organization	Does not develop ideas cogently, uneven and ineffective overall organization, unclear introduction or conclusion	Develops and organizes ideas in paragraphs that are not necessarily connected. Some overall organization, but some ideas seem illogical and/ or unrelated, unfocused introduction or conclusions	Develops unified and coherent ideas within paragraphs with generally adequate transitions; clear overall organization relating most ideas together, good introduction and conclusion.	Develops ideas cogently, organizes them logically with paragraphs and connects them with effective transitions. Clear and specific introduction and conclusion.	
Language	Employs words that are unclear, sentence structures inadequate for clarity, errors are seriously distracting	Word forms and sentence structures are adequate to convey basic meaning. Errors cause noticeable distraction	Word forms are correct, sentence structure is effective. Presence of a few errors is not distracting.	Employs words with fluency, develops concise standard English sentences, balances a variety of sentence structures effectively.	

Continue … Writing Rubric II (Day2)

TRAIT	0-1	2-3	4-5	6-7	Score
Spelling and Grammar	Writing contains numerous errors in spelling and grammar which interfere with comprehension	Frequent errors in spelling and grammar distract the reader	While there may be minor errors, the writing follows normal conventions of spelling and grammar throughout and has been carefully proofread	The writing is essential error-free in terms of spelling and grammar	
Development of Ideas	Most ideas unsupported, confusion between personal and external evidence, reasoning flawed	Presents ideas in general terms, support for ideas is inconsistent, some distinctions need clarification, reasoning unclear	Supports most ideas with effective examples, references, and details, makes key distinctions	Explores ideas vigorously, supports points fully using a balance of subjective and objective evidence, reasons effectively making useful distinctions	

TRAIT	0-1	2-3	4-5	6-7	Score
Purpose	The purpose and focus of the writing are not clear to the reader	The writer's decisions about focus, organization, style, and content sometimes interfere with the purpose of the writing.	The writer has made good decisions about focus, organization, style, and content so as to achieve the purpose of the writing.	The writer's decision about focus, organization, style, and content fully elucidate the purpose and keep the purpose at the center of the piece	

Oral Communication Rubric II (Day2)

TRAIT	Unacceptable	Acceptable	Exemplary	Score
Organization	No opening statement, or irrelevant statement. Leaves listener wondering where the presentation is headed	Has opening statement relevant to topic, and gives outline of speech. Mostly organized, provides an adequate "road map" for the listener.	Has a clear opening statement that catches audience's interest. Stays focused throughout.	
Voice quality	Often hard to understand what is being said. Voice is too soft, or too loud. Pace is often too quick or too slow.	Can easily understand -- appropriate pace and volume.	Excellent delivery. Modulates voice, projects enthusiasm, interest, confidence.	
Mannerisms	Demonstrates one or more distracting mannerisms.	No distracting mannerisms.	Uses body language effectively to maintain audience's interest.	

TRAIT	Unacceptable	Acceptable	Exemplary	Score
Use of media	Relies heavily on slides or notes. Makes little eye contact. Slides contain too much text.	Looks at slides to keep on track with presentation. Appropriate number of slides.	Slides are used effortlessly to enhance speech. Speech could be effectively delivered without them.	
Quality of conclusion	Missing or poor. Not tied to analysis. Does not summarize points that brought the speaker to this conclusion.	Summarizes presentation's main points, and draws conclusions based upon these points.	Goes beyond "average" in delivering a conclusion that is very well documented and persuasive.	

Critical Thinking Rubric(Day2)

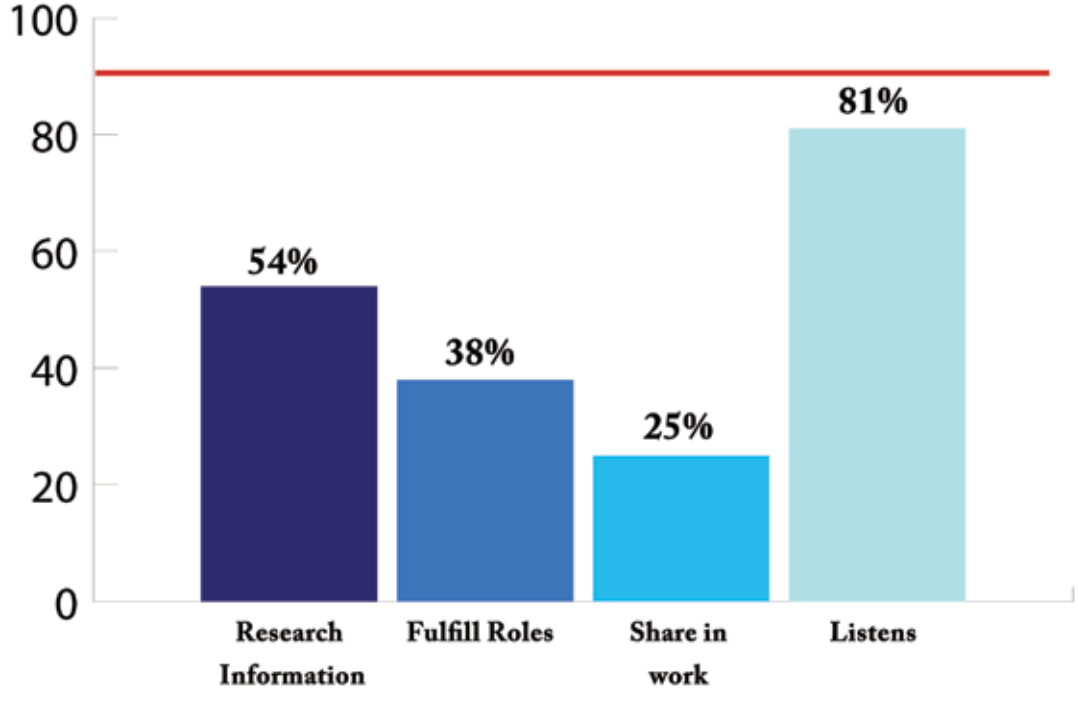
TRAIT	Unacceptable	Acceptable	Exemplary	Score
Identifies and Summarizes problem at issue	Does not identify and summarize the problem, is confused or identifies a different or inappropriate problem	Identifies the main problem and subsidiary, embedded, or implicit aspects of the problem	Identifies not only the basics of the issue, but recognizes nuances of the issue	
Personal perspective and position	Addresses a single source or view of the argument and fails to clarify presented position relative to one's own	Identifies, appropriately, one's own position on the issue	Draws support from experience and information not available from assigned sources	
Other salient perspectives and positions	Deals only with a single perspective and fails to discuss other salient perspectives	Identifies other salient perspectives drawn from outside information	Addresses and analyzes salient perspectives drawn from outside information	

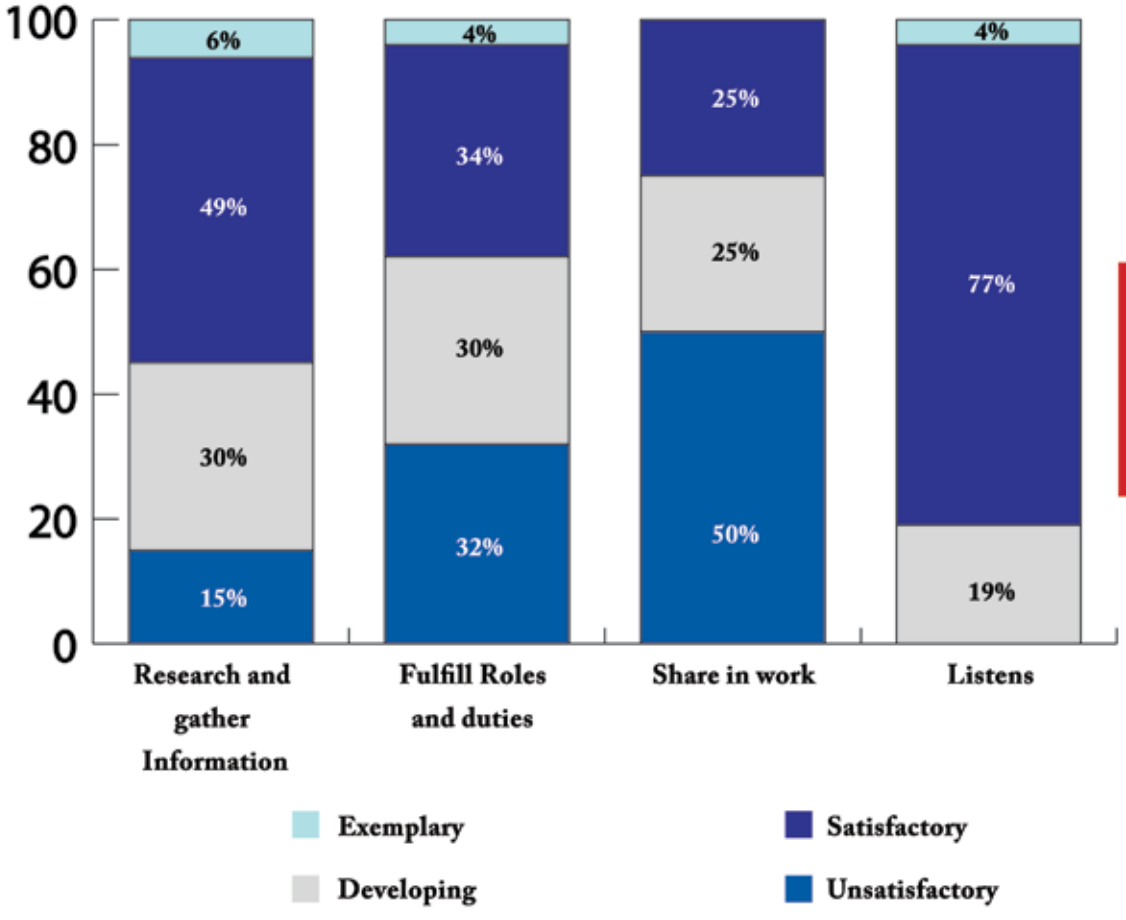
TRAIT	Unacceptable	Acceptable	Exemplary	Score
Key assumptions	Does not surface the assumptions and ethical issues that underlie the issue	Identifies some of the key assumptions and ethical issues	Identifies and questions the validity of the key assumptions and addresses the ethical dimensions that underlie the issue	
Quality of evidence	Merely repeats information provided, taking it as truth or denies evidence without adequate justification	Examines the evidence and source of evidence, questions its accuracy, precision, relevance, and completeness	Observes cause and effect and addresses existing or potential consequences. Clearly distinguishes between fact, opinion, and acknowledges value judgments	
Conclusions, implications, and consequences	Fails to identify conclusions, implications, and consequences of the issue	Identifies and discusses conclusions, implications, and consequences	Objectively reflects upon own assertions	

At a level expected for a student who will graduate?

Example of Results
Work effectively in teams

Teaming Skills: Percent meeting target performance





Teaming Skills

How many points on the scale ? Day2)

- Consider both the nature of the performance and purpose of scoring.
- Recommend 3 to 5 points to describe student achievement at a single point in time.
- If focused on developmental curriculum (growth over time) more points are needed (i.e., 6-11 ???)
- More points on a scale, the more difficult it is to get inter-rater reliability.

Curriculum map for Communication Skills, All Criteria Day2)

	2nd Year			3rd Year			4th Year		
Fall	CH 01	Cons.Principles	4	CH414	Heat Transfer	4	CH400	Career P III	0
	M 251	O Chem I	4	CH415	Materials	4	CH401	Mass II	4
	MA221	DE I	4	CM225	A Chem I	4	CH403	Lab II	2
	HSS	Elective	4	CH304	Thermo II	4	CH404	Kinetics	4
	CH200	Career P I	0					Elective	4
Winter	CH 202	Che Proc Calc	4	CH300	Career P II	0	CH406	Design I	4
	CM 252	O Chem II	4	CM360	P Chem	4	CH408	Lab III	2
	MA 222	DE II	4	CH305	Mass I	4	CH440	P Control	4
	EM 101	Statics I	2	MA227	Statistics	4	HSS	Elective	4
				HSS	elective	4		Elective	4
Spring	CH301	Fluids	4	EE206	EEE	4	CH407	Design II	4
		Elective	4	CH402	chE Lab I	1	CH409	Prof Proc	1
	HSS	Elective	4		Elective	4	HSS	Elective	4
	CH303	Thermo I	4	HSS	Elective	4		Elective (Des)	4
					Elective	4		Elective (free)	4

Summary Day2)

- Need to be clear about how rubric is going to be used.
- Rubrics are not required for all outcomes.
- Rubrics guide faculty in the assessment process and provide understanding of areas of strength and weakness in student performance related to specific performance criteria.
- Importance of pilot testing the rubric - increase inter-rater reliability and validity.


Assessment
IDEAS
Identify, Mission, PEOs & ILOs
Define Criteria for Success
Evaluate Performance against Criteria
Analyze Assessment Results
Seek Improvements through actions

Day 3

Workshop Summary (Day3)

Today's workshop: attendees Will be Able to

- **Assess Program Educational Objectives (PEOs)**
- **Will understand how to develop a university-wide framework of assessment and management**
    - define the roles and responsibilities of the concerns
    - structure the organization for quality review, assurance, control and enhancement
    - formulate Policies, Procedures and Processes for quality review, assurance, control and enhancements
    - lead Change Management at the organization for quality upgrade
    - know the Tools to maintain quality assurance, control, and enhancement
    - identify the Resources and Training needed to maintain the level of quality

Why Collect Course Portfolios? (Day3)

1. Documentation
2. Evidence of excellence
3. Reflection
4. Knowledge sharing and transfer
5. Assessing progress

What should be included in the Course Portfolio (Day3)

1. Documentation
2. Evidence of excellence
3. Reflection
4. Knowledge sharing and transfer
5. Assessing progress

1. Course File that includes assessment (quiz, assignment, exams, projects …) + Model Answers, Sample of student work
2. Evidence of excellence
3. CILO report, PILO report
4. For next semester,
   - a new lecturer or the current one will have the whole guide to teaching and assessment with feedback,
   - Discussion of improvement actions within the councils, etc
5. Grade Distribution, Comments on student's work – CILOs Assessment – PILOs Assessment

Contents of the Course Portfolio (Day3)

1. Checklist
2. Course syllabus (including outcomes)
3. Course assessment
    - Mapping of CILOs to PILOs
    - Mechanism used to assess student learning
    - Assessment results
    - Faculty's personal reflection including discussion and analysis of assessment results
    - Future plans of improvement
4. Grade distribution sheet
5. Copies of assignments and exams
6. Samples of graded assignments, exams, and projects

Courses with multiple instructors (Day3)

- Course coordinator has overall responsibility
- Course instructors coordinate and cooperate
- Each instructor must submit his course assessment

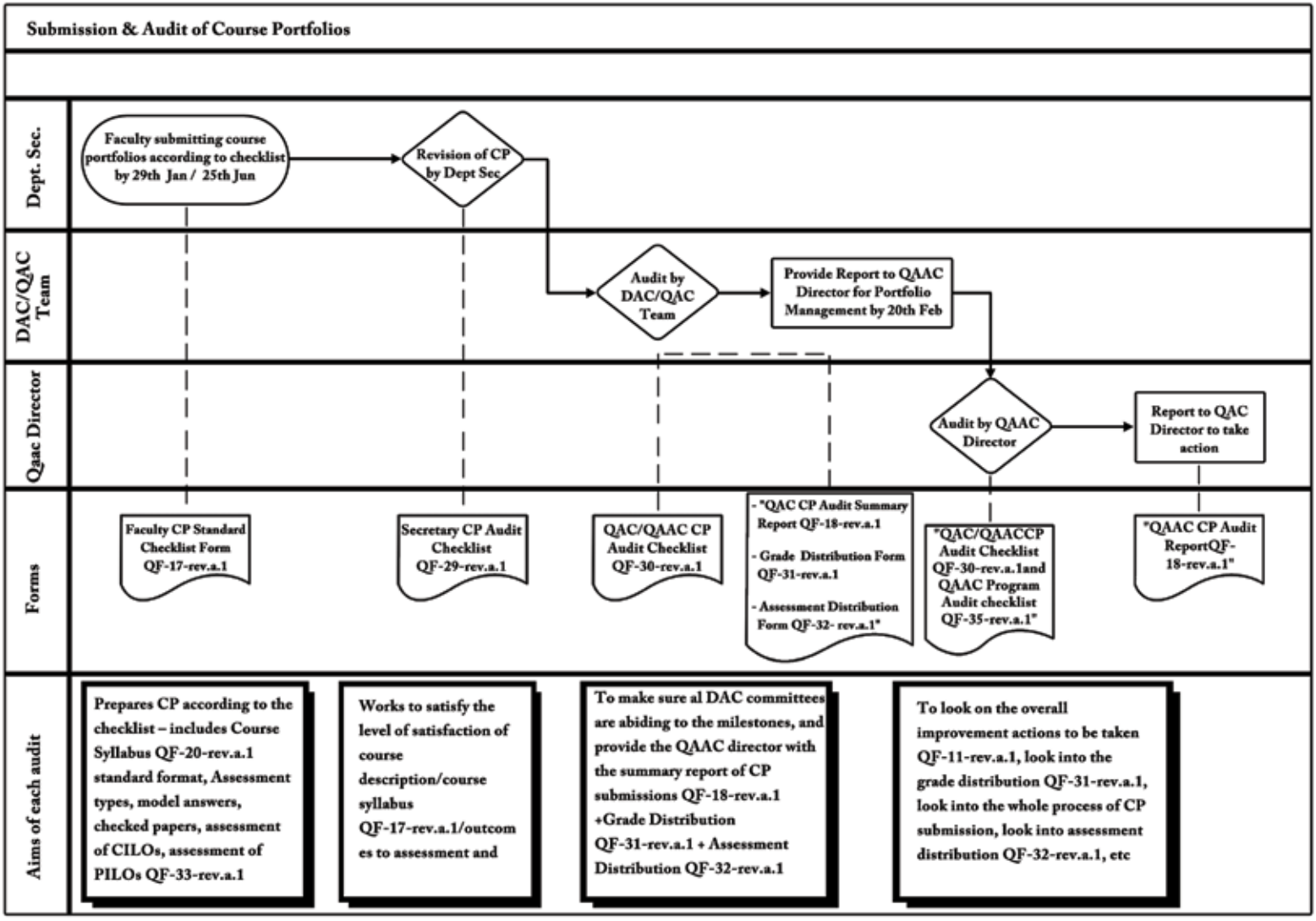
Service or Cross-listed Courses (Day3)

It is recommends that the "home" program (i.e. the department offering and maintaining the course) of service or cross-listed courses be responsible for those course portfolios.

Update of Portfolios

- Portfolios should be updated each semester
- Some kind of mechanism within the department must be established for follow up and review of the results of the assessment and the portfolio contents

Process of Course Portfolio Submission and Audit



Course Portfolio: Type of responsibility on auditing the file

Faculty	Checklist Content Analysis CILOs and PILOs Report
Quality Assurance Committee Department	Content CILOs Report PILOs Report Improvement Actions
Quality Assurance Director College	PEOs CILOs Report and Improvement Actions PILOs Report and Improvement Actions Action Plan for the Improvement Actions
Quality Assurance Director University	UILOs and the mapping of PILOs to UILOs Efficiency of the process CILOs and PILOs Reports and Actions Action Plans initiated

Audit Plan within a Roadmap

University of Bahrain
Quality Assurance and Accreditation Center (QAAC)

University Intended Learning Outcomes (UILOs)

1. Communication: Communicates effectively orally and in writing; in a clear, well-organized manner to convey ideas with an intended audience in a variety of academic and professional settings.
2. Technological Competence: Demonstrate competence in the use of information technology to an extent to meet personal, academic and professional needs.
3. Critical Thinking Knowledge and Skill: Possess a knowledge base in general education areas, and demonstrate and apply critical and creative thinking, using specific knowledge and skills in a major discipline or professional program of study.
4. Information Literacy: Demonstrate the ability to apply research skills to effectively locate, retrieve and evaluate information and use it ethically.
5. Responsibility and Integrity: Act purposefully, ethically, respectfully and responsibly in interactions with staff, faculty, peers and the institution as a whole.
6. Life-Long Learning: Strive for excellence in life-long learning by planning for the future, participating in continuing education or professional development activities and seeking formal and informal opportunities to enrich lives.

Course Intended Learning Outcomes (CILOs) Criteria

a) CILOs should not exceed 10, unless necessary. Never should be the case knowledge and skills intended for this course.

b) CILOs must be mapped to PILOs which they aim to achieve.

c) CILOs should not be mapped with a verb lower than the PILOs one in Bloom's Taxonomy.

d) Students should be involved in updating and understanding the CILOs.

e) CILO updates should be approved by the Department, clearly listed in the course outline and explained to the students in class.

f) CILOs should not describe course content in detail and should not describe all course requirements (e.g., mandatory, attendance and deadline for the assignments).

Program Educational Objectives (PEOs) Criteria

a) PEOs are broad statements that describe what graduates are expected to attain within a few years after graduation.

b) PEOs are based on the needs of the program's constituencies and mission.

c) PEOs should be stated in terms easily understandable to an external observer.

d) PEOs should be reviewed on the ultimate goals of the program and not on the skills and knowledge gained by the student.

e) PEOs should be 10 to 20 statements.

Program Intended Learning Outcomes (PILOs) Criteria

a) PILO statements should be distinctive and specific to the program and should be framed in terms of the program and not individual courses.

b) PILOs should range from 5 to 11 outcomes for each program, when in doubt fewer are better.

c) PILOs must be mapped to PEOs and ULOs.

d) PILO statements should describe the abilities, knowledge, skills, values and attitudes expected of the students after completion of the program (specify the minimum terms and attributes of a successful student).

e) PILO statements should use action verbs aside from Bloom's Taxonomy with an emphasis on higher-order thinking skills.

f) PILOs should be written in a language that the students (and those outside this field) are able to understand.

g) PILOs should be agreed upon by program faculty and staff.

h) PILO statements should be stated such that the outcome can be measured by more than one assessment method; the statement should not impose restrictions on the type or number of assessment methods (cross-parallels).

i) PILOs should focus on student and learner, not on the instructor or teacher, (e.g., student-centered).

j) PILOs should be mapped to the PEOs and the ULOs.

k) PILOs are to have a formal verbal to: 1. To (action verb) (object) (target) (modifiers) or 2. The (target) (action verb) (modifiers) (object).

Role of Quality Assurance Committee (QAC) Director

The QAC Director is the reference and the guide for the DAC. The main duties of the QAC Director include, but are not limited to, the following:

i- responsible for monitoring and maintaining the quality of all programs in the College. The QAC Director should make arrangements for required training of faculty and staff in coordination with the Quality Assurance and Accreditation Center (QAAC). The QAC Director is responsible for monitoring the data entry of the Program Specifications within the AIMS website; however responsibility for the data entry task is with the program/department. Any program undergoing the accreditation process should consult the QAC Director for assistance with the process.

ii- responsible for disseminating all QAAC requirements to the departments. Likewise, the QAAC Director is expected to provide the departments with all information regarding senior exit survey, faculty survey, annual meetings, SER target dates, etc. The QAC Director should ensure that all programs are abiding by their duties, such as conducting alumni and employer surveys, assessing PEOs, PLOs and CLOs, PI Remediation, developing improvement plans, managing course portfolios, etc.

iii- expected to provide the QAAC with the latest performance of the programs. The QAC Director is the key connection for dispersal to Departments of all documents formulated by QAAC and for delivering to the QAAC the documents (SER, improvement action plan, etc.) submitted by the Departments. The QAC Director is to follow up the PAC, SAC and DAC membership options.

Role of Department Accreditation Committee (DAC) / Quality Assurance Committee (QAC)

The DAC is the steering force behind the assessment and quality assurance process. It coordinates the quality assurance and accreditation activities and is responsible for organizing and reviewing the program outcomes, objectives, course portfolios, assessment and survey data, as well as writing the self-evaluation report draft. The committee assists the Department Chairperson in drawing up improvement plans, based on the self-evaluation process. The committee also recommends training sessions to ensure performance of programs.

Role of Program Advisory Committee (PAC)

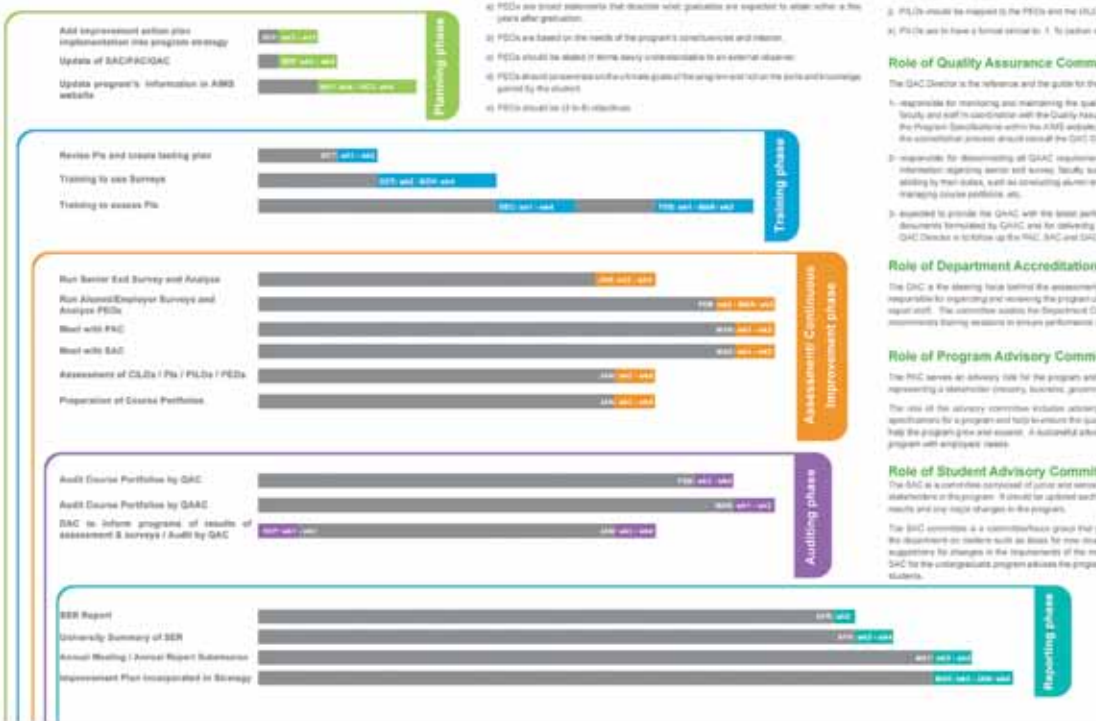
The PAC serves an advisory role for the program and its development. The PAC is usually composed of employers, scholars, or any other external person representing a stakeholder (industry, business, government, and other agencies) with an interest in the quality of the program's graduates.

The role of the advisory committee includes advising, assisting, supporting, and advocating the academic programs. Advisory committees also provide benchmarks for a program and help to ensure the quality of program graduates. An advisory committee's role is to offer suggestions for improvements that will help the program grow and expand. A successful advisory committee is one that plans and carries out a program of work that aligns the technical/occupational program with employers' needs.

Role of Student Advisory Committee (SAC)

The SAC is a committee composed of junior and senior students currently enrolled in the program. This committee serves as a representative of the students as stakeholders in the program. It should be updated each year by replacing the senior students who graduate with other students. SAC is consulted on assessment results and any major changes in the program.

The SAC committee is a committee/focus group that provides advice to the owners of the program with the aim to improve the program. The SAC advises the department on matters such as ideas for new courses and programs, proposals for improvement of instruction or faculty advising in the department, and suggestions for changes in the requirements of the major, possible difficulties in fields such as Maths and English, proposes pre-requisite changes, etc. The SAC for the undergraduate program advises the program administrators about students' concerns and helps to coordinate extracurricular activities to benefit the students.



Stages of Audit Process (Day3)

To maintain success of the audit, the following stages is to be followed:

What kind of recommendations can be obtained from the Audit process of the Course Portfolios (Day3)

Results

- **Recommendation:** "The Intended Learning Outcomes(ILO's) of specific courses, are not well articulated and are targeting the lower level of thinking in the 100 level to 400 level courses"

- **Recommendation:** STAT *** has only 2 CILOs, which are considered to be very few. CILOs range from 3 to 8 max.

- **Recommendation:** STAT *** and STAT *** had too many CILOs (17 and 13). These are too many to be able to assess the level of their achievement. CILOs range from 4 to 10 max.

- **Recommendation:** The PILO "c", "Analyze and solve financial and industrial problems, using statistics" and PILO "d", "Conduct qualitative and quantitative surveys" and PILO "e", "Analyze real life data using statistical tools" was not evident in the course portfolios reviewed

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- **Recommendation:** Several Chemistry courses, such as CHEMY ***, *** included Lab reports and other good assignments, however, students papers were not marked for technical writing. Reports were expected to develop student›s writing skills.

- **Recommendation:** In CHEMY ***, the CILO's include "ability to Design Experiments" , however no assignments were given to assess such outcome. The word "design" is also used in the CILOs of CHEMY 4**, however it was found that it was related to direct application of equations, with no analysis, developing alternate solutions, and selection (decision) of best solution with care to the constraints.

What kind of recommendations can be obtained from the Audit process of the Course Portfolios … cont.(Day3)

On general, the reviewer's comments with respect to the PILOs and CILOs, the reviewers recommended the following:

- The ILOs of several courses need to be rewritten and better articulated
- The program need to revisit the mapping process of course ILOs against the PILOs.
- The program need to be sure that all stated PILOs are satisfied by the curriculum mapping and assessment.
- The program need to develop appropriate direct and indirect methods for assessing the ILOs.
- The program should develop a clearer alignment between the assessment methods and course ILOs to achieve particular outcomes

At University Level (UILOs) : What kind of recommendations can be obtained from the Audit process of the Course Portfolios … cont

(Day3)

1. Communication Skills

Only one course included a presentations of no team-work and with no report writing work.

2. Technological competence

Technological competence is been taught in one course only, STAT ***. However, No software packages were used as part of the applications in the 300 and 400 level courses. STAT373, Statistical Packages, equipped the students with the required software packages through assignments; however, neither of the courses in the 300, nor the 400 level were applying those software packages.

3. Critical Thinking and Analysis

On revising the course portfolios, it was found that there were very limited home works, case studies to raise the critical thinking of the students, nor raising the independence in learning. Quizzes and Exams were mainly math problems with no link to real-life examples.

At University Level (UILOs) : What kind of recommendations can be obtained from the Audit process of the Course Portfolios … cont

(Day3)

4. Information and literacy

It was found that the program had no research-wise reports and presentations. This means that neither the UILO (4) is achieved, nor the PEOs of the program..

5. Responsibility and Integrity

Through revision of course portfolios of one of the programs at College of Science, it had found that very limited independency is developed due to limited and few number of assignments.

6. Life-long Learning skills

On revising the course portfolios, it was found that there were very limited home works, case studies to raise the critical thinking of the students, nor raising the independence in learning. Quizzes and Exams were mainly math problems with no link to real-life examples.

Action Plan for all recommendations and improvement actions: based on Course Portfolio Audit (Day3)

QAAC Course Portfolio Improvement Plan **Date: May 2012** **College: Business Administration**

Department: Management and Marketing **Program: B.SC. in Management**

NO	WEAKNESS	What Action Is Planned	By When?	Who Is Responsible?	REMARKS
1	There is no evidence showing the assessment of CILOs and accordingly taking improvement actions	CILOs have to be refined and in some case rewritten		Quality Committee, Course Coordinator	PIs?
2	There is no evidence showing the assessment of PILOs and accordingly taking improvement actions			Quality Committee, Course Coordinator	Rubrics?
3	No PILO Matrix Form is available to track the achievement of the PILOs, and its relation to the courses			Quality Committee, Course Coordinator	Rubrics?

NO	WEAKNESS	What Action Is Planned	By When?	Who Is Responsible?	REMARKS
4	UILO (2) – Technological competence is been touched by some courses very softly. I n other words, students do not seem to be prepared adequately to be competent. Out of the 12 core and elective courses, five courses are focusing on basic MS word usage for report writing. None of the courses showed the technological competence in MS Excel				Due to the nature of the courses being taught in the program, MS word is sufficient for the purposes of preparation of reports, assignments, etc However, QM250 uses Excel for teaching purposes
5	UILO (4) – Information and literacy; Group of case studies are provided to the students, and evenly reports are required by students; however, in one aspect this helped in raising the critical thinking UILO (3), but it did not include any skills of research, where no references were used in almost all assessment types, reports and presentations	• Establish a culture of research in all assignments given to students. • Implement the use of plagiarism detection software • Emphasize the importance of acknowledging copyright issues among students • Teach students a specific referencing style and adopt it for use by all college of business faculty and students	September 2012	Dean, Department Chair, Course Coordinators, Faculty	

Assessment of PEOs(Day3)

- **Assessment of the PEOs comes from the concept and the idea of formulating PEOs**
- **Recalling: PEOs are statements that describe the expected accomplishments of graduates during the first few years after graduation.**
- **Where to start when developing PEOs:**
    - Mission, Vision statements
    - Values, Goals, Purpose, Philosophy
    - Curriculum Details
    - Market Needs
    - External agencies (e.g. AACSB, ABET, SACS, NCAT, NAAB, CIDA)

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Example1 Program Educational Objectives

Biological Sciences Programs

Graduates will be prepared for

- Entrance to a professional school (e.g., medical, dental, veterinary, law)
- Employment related to biology (e.g., in a research & development laboratory, fishery, drug company; or in a quality control agency monitoring environmental pollution, food producers, cosmetics; or as a teacher in school)
- Entrance to a graduate program in biology

Psychology B.A. and B.S. Programs

- Graduates will be prepared to apply knowledge of psychological theory, research and methods to education, career and interpersonal relations.
- Graduates will be prepared for employment in occupations related to knowledge and skills in psychology (e.g., administration, advertising, community relations, human resources, human services, market research, and sales).
- Graduates will be prepared for entrance into graduate programs in psychology, related areas of human services (e.g., counseling), or to professional schools (e.g., psychology, medicine, dentistry, veterinary medicine, and law).

Example2
Program Educational Objectives

Example3
Program Educational Objectives

Marketing Program

Graduates of the Marketing Major program will be prepared to:

- Hold entry-level professional positions in business or nonprofit organizations.
- Enter an MBA or other graduate business program.
- Make significant contributions to marketing decision-making in both domestic and global organizations

How to know if graduates are achieving the PEOs (Day3)

Graduates of the Marketing Major program will be prepared to:

- Hold entry-level professional positions in business or nonprofit organizations.
- Enter an MBA or other graduate business program.
- Make significant contributions to marketing decision-making in both domestic and global organizations

- Follow-up on graduates
- Ask about their professionalism, communication, management skills, etc
- Ask the graduates/alumni/ themselves
- Ask the employers about the graduates
- Ask the graduates if they can continue on their graduate studies
- Make sure if they were equipped with the required knowledge, competence and skills to make contributions to the marketing decision

Information needed to assess PEOs (Day3)

PEO1: Hold entry-level professional positions in business or nonprofit organizations.

Aspects or Information needed	What type of questions to ask	Whom to ask	How to get the information
Follow-up on graduates			
• Ask about their professionalism, communication, management skills, etc			
• Ask the graduates/alumni/ themselves			
• Ask the graduates if they can continue on their graduate studies			
• Make sure if they were equipped with the required knowledge, competence and skills to make contributions to the marketing decision			

Exercise Worksheet

Type of information obtained (Day3)

Alumni

- Experience in work and its relation to his/her knowledge, skills and competence (outcomes)
- Ability to continue studies/workshops related to their profession
- Are able to work in teams
- Are able to communicate orally and in written with the staff

Employer

- Graduates have the required knowledge, skills and competence
- Graduates can work in teams
- Graduates can communicate with the teams members
- Graduates are able to write reports

Tools to obtain information (Day3)

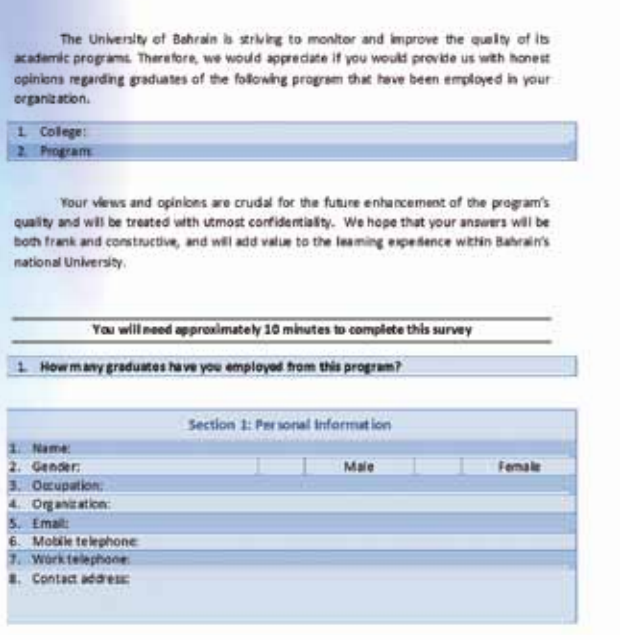
- Employer survey
- Alumni survey
- Group discussion
- Advisory Committee
- Focus Groups
- Meeting employers on-site

Outcomes of assessing the information (Day3)

- Stakeholder involvement
- Chance of identifying opportunities for improvements
- Performance measurement
  - College
  - Department
  - Program
  - Instructor
  - Course/Unit

Developing an Employer Survey (Day3)

- Keep an eye on the PEOs
- Keep an eye on the expected feedback
- Keep an eye on the graphs to be generated



The University of Bahrain is striving to monitor and improve the quality of its academic programs. Therefore, we would appreciate if you would provide us with honest opinions regarding graduates of the following program that have been employed in your organization.

1. College:
2. Program:

Your views and opinions are crucial for the future enhancement of the program's quality and will be treated with utmost confidentiality. We hope that your answers will be both frank and constructive, and will add value to the learning experience within Bahrain's national University.

You will need approximately 10 minutes to complete this survey

1. **How many graduates have you employed from this program?**

Section 1: Personal Information				
1. Name:				
2. Gender:		Male		Female
3. Occupation:				
4. Organization:				
5. Email:				
6. Mobile telephone:				
7. Work telephone:				
8. Contact address:				

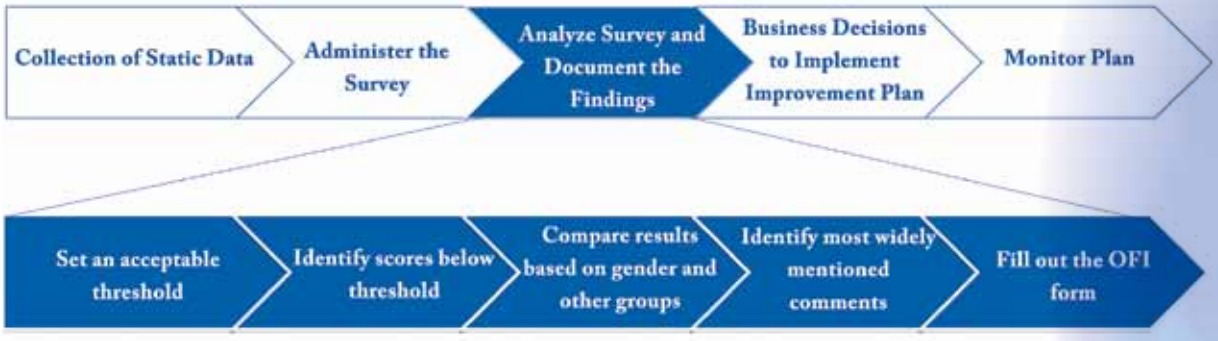
Outcomes of assessing the information (Day3)

- Stakeholder involvement
- Chance of identifying opportunities for improvements
- Performance measurement
  - College
  - Department
  - Program
  - Instructor
  - Course/Unit

Information needed to assess PEOs (Day3)

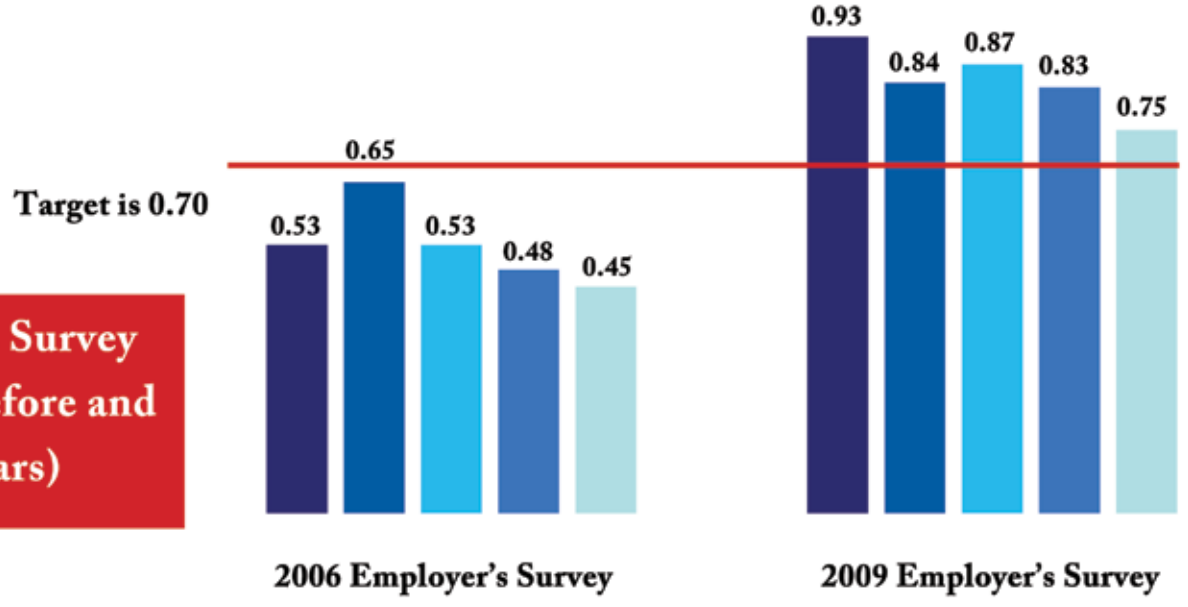
Responsible for Implementation	• Survey dependant • QAAC for university-wide surveys • Department for program-specific surveys	• QAAC: for university-wide surveys • QAO and Department for program-based surveys + university-wide (program specific data only)	• University Council • Colleges • Departments • Units	• Departments • Colleges
Tools Used		• AIMS Online Surveys	• Excel • Survey findings template	• OFI monitoring tool (to be implemented)
Input	• List of participants plus relevant data		• Survey raw data	
Output	• List of participants entered into AIMS	• Survey results	• Key findings and summary of results • Summary of comments • Most significant Opportunities for Improvement	

Information needed to assess PEOs (Day3)



Responsible for Implementation	• University Council • College	• QAO	• QAO	• QAO	• Departments • Colleges
Tools Used		• Excel, SPSS, etc.	• Excel, SPSS, etc.	• Counting template • Pareto charts	• OFI monitoring tool (to be implemented) • OFI form
Input	• Survey			• List of comments	
Output	• List of threshold for each answer			• Summary of results • Summary of comments • Charts	• OFIs

Employer's Survey Results: Before and After (3 Years)

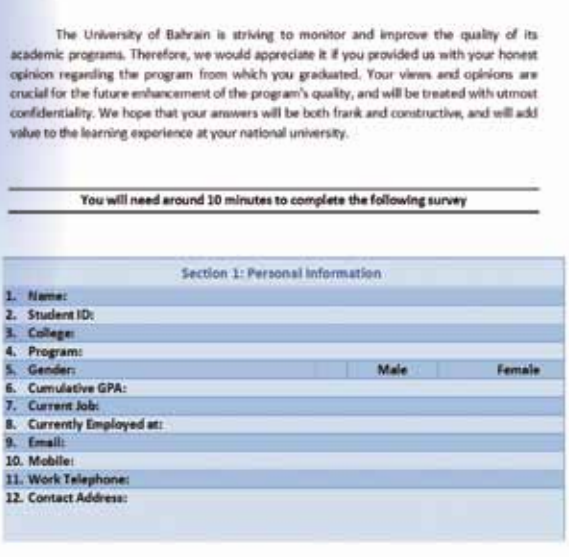


- PEO 1: Leadership Skills for successfull career in IT
- PEO 2: Fundamental scientific knowledge
- PEO 3: Apply knowledge of Math and IT to solve problems
- PEO 4: Communication Skills and teamwork
- PEO 5: Ethical, legal, and professional issues

Employer's Survey Results: for Chemical Engineering Program

Developing an Alumni Survey (Day3)

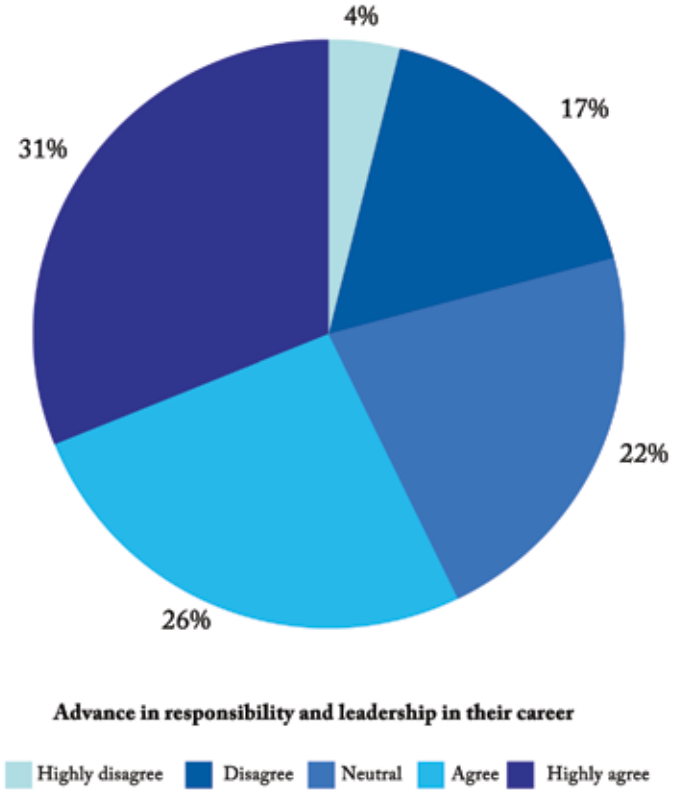
- Keep an eye on the PEOs
- Keep an eye on the expected feedback
- Keep an eye on the graphs to be generated



The University of Bahrain is striving to monitor and improve the quality of its academic programs. Therefore, we would appreciate it if you provided us with your honest opinion regarding the program from which you graduated. Your views and opinions are crucial for the future enhancement of the program's quality, and will be treated with utmost confidentiality. We hope that your answers will be both frank and constructive, and will add value to the learning experience at your national university.

You will need around 10 minutes to complete the following survey

Section 1: Personal Information		
1. Name:		
2. Student ID:		
3. College:		
4. Program:		
5. Gender:	Male	Female
6. Cumulative GPA:		
7. Current Job:		
8. Currently Employed at:		
9. Email:		
10. Mobile:		
11. Work Telephone:		
12. Contact Address:		



Alumni Survey Results

Tools to obtain information (Day3)

- Employer survey
- Alumni survey
- Group discussion
- Program Advisory Committee
- Focus Groups
- Meeting employers on-site

Program Advisory Committee & Focus Group (Day3)

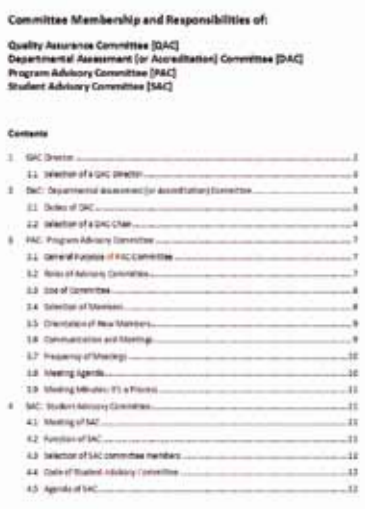
Program Advisory Committee (PAC)/Focus Group

- Formation of PAC?
- Roles and responsibilities?
- How useful to the program?
- What information program could share?
- Who manages the meeting?
- How follow-up actions are planned?

Sample of PAC Roles (Day3)

Advisory committees can provide:

- Labor market needs and trends
- Advice in the formulation and review of the Program's PEOs
- Validation of content
- Assessment of program quality
- Curriculum Modification
- Unique education/training experiences
- Program Credibility
- Assistance in adapting skill standards to local needs

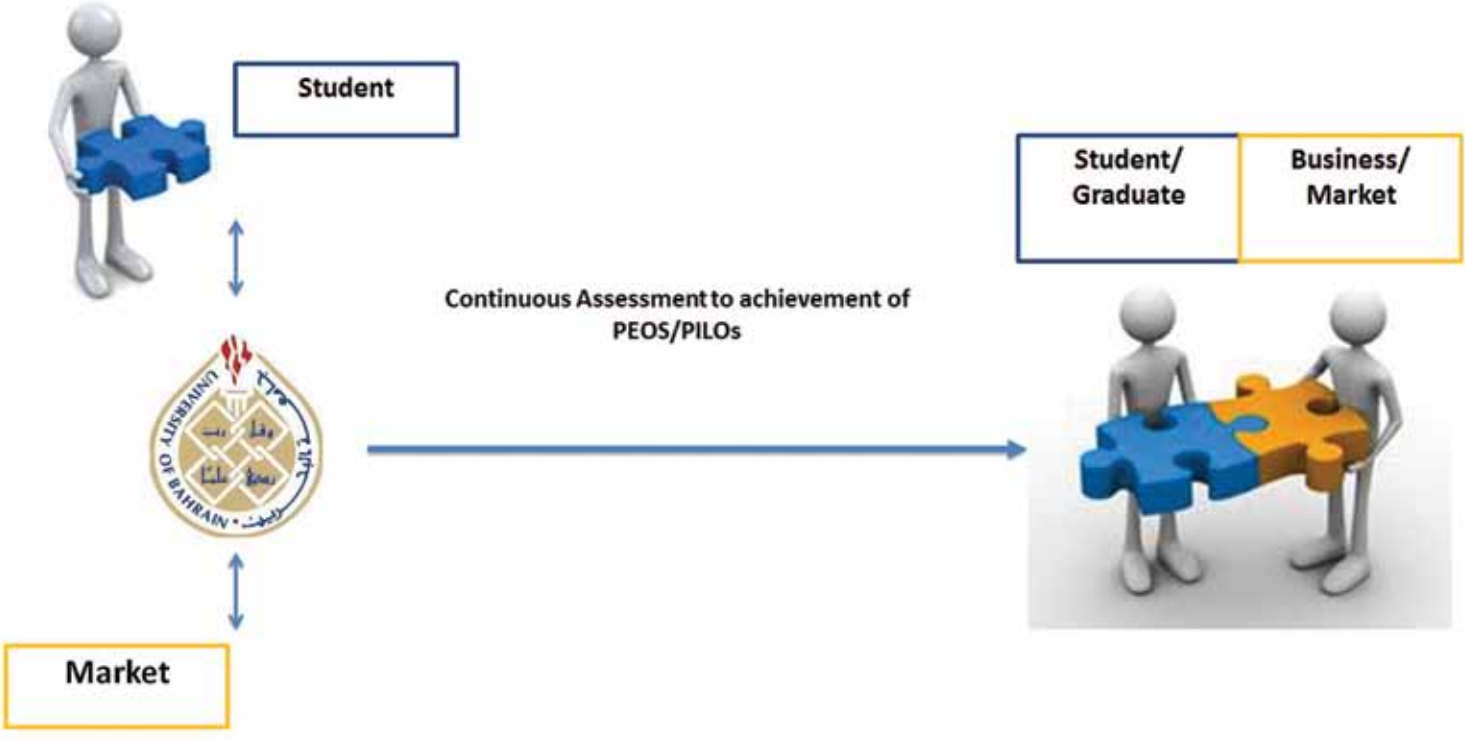


Committee Membership and Responsibilities of:

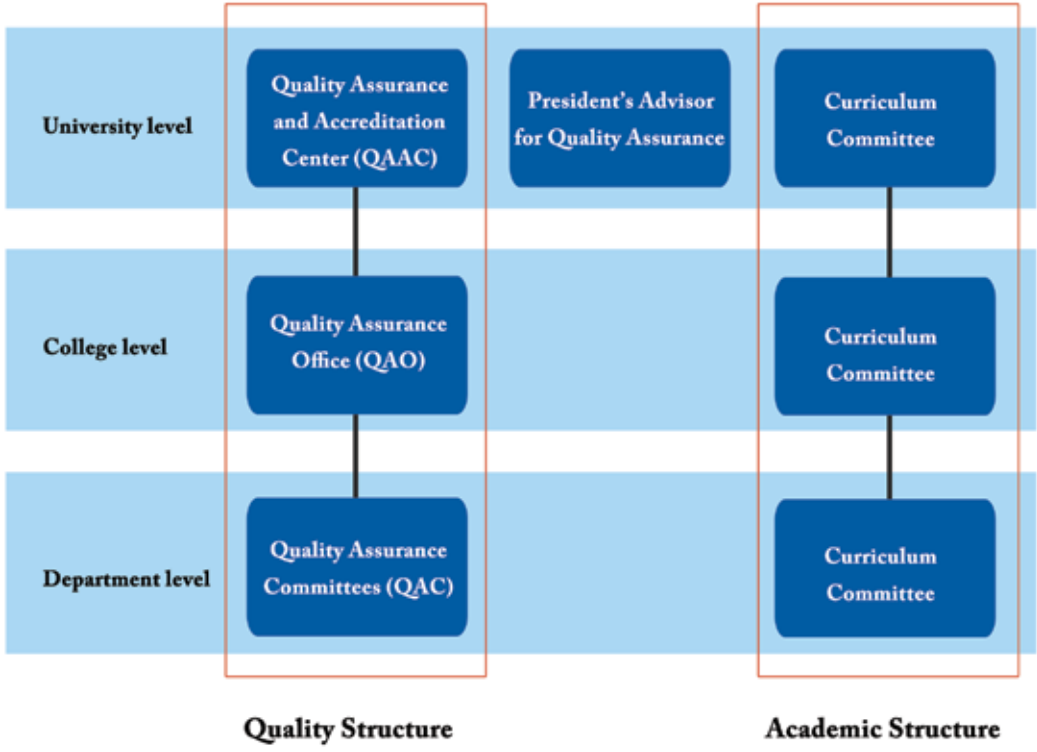
Quality Assurance Committee [QAC]
Departmental Assessment [or Accreditation] Committee [DAC]
Program Advisory Committee [PAC]
Student Advisory Committee [SAC]

Contents

Continuous Assessment to achievement of PEOS/PILOs (Day3)

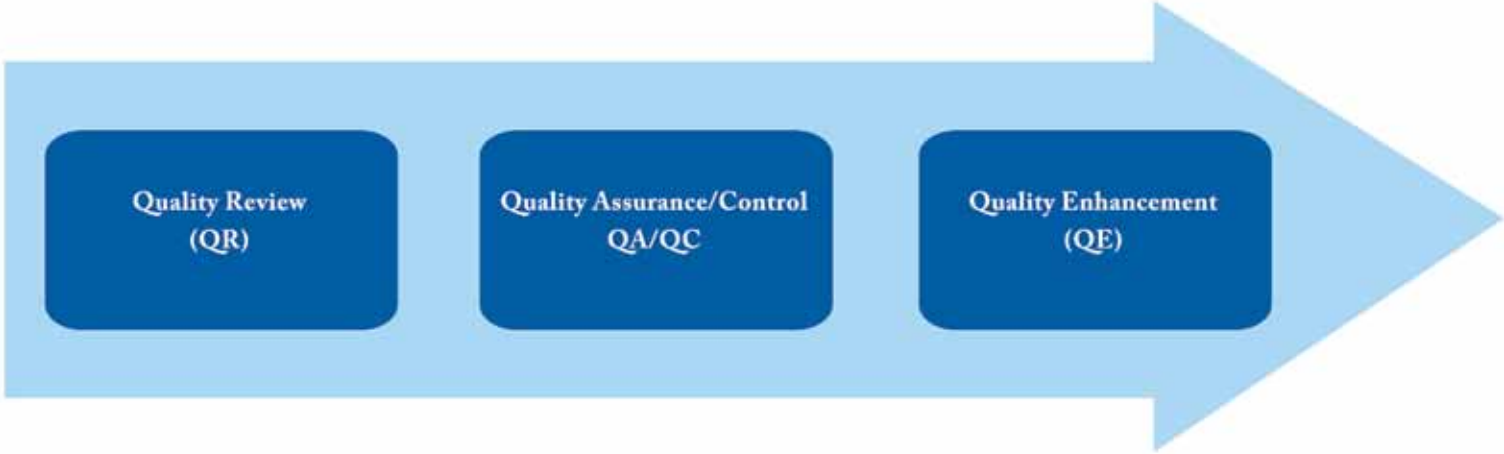


Quality Assurance Structure at University of Bahrain



Quality Framework

Quality Review/ Assurance/ Enhancement (Day3)

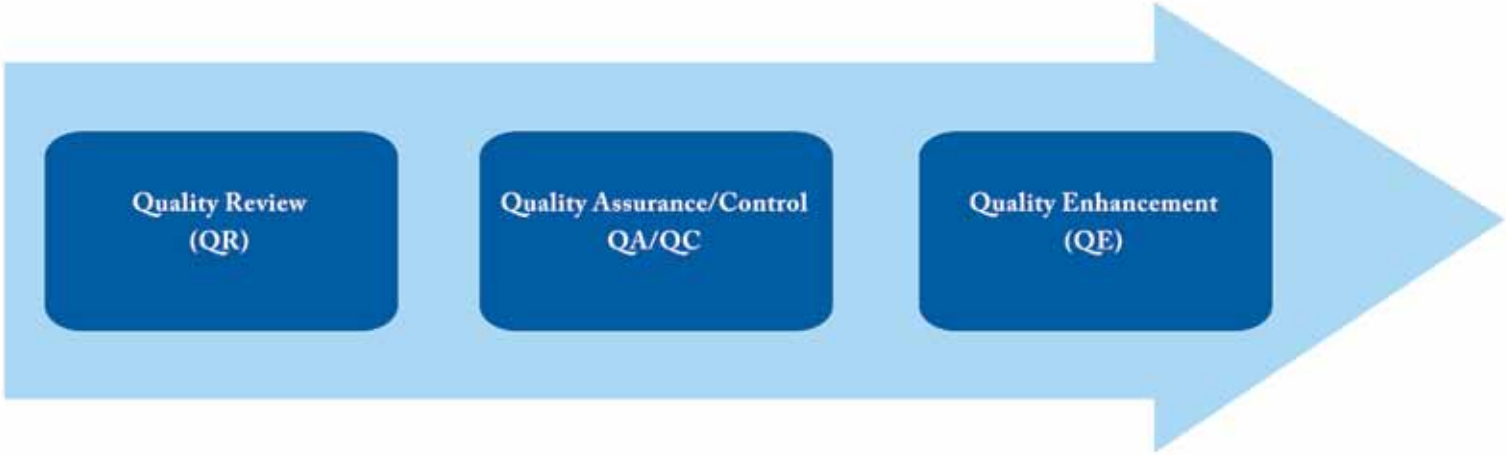


- Review the Curriculum Teaching and Learning Process
- Review the Program PILOs
- Conduct Self evaluation reports
- Conduct meetings with faculty, employers, students, etc
- Conduct surveys
- Audit and Review of Programs (Portfolio, Curriculum, Schedule, Qualifications, etc)

- Top Management (TM) Support
- Create Roles and Responsibilities
- Develop Policies and Procedures
- Develop Processes
- Provide all capacity building training and resources
- Supporting Tools
- Data Collection and Management

- Analyze Quality data and information for improvement
- Meetings to develop Action Plans with TM, Faculty, Student, Employers, etc
- Follow-up on action plans
- Benchmarking with other programs

Responsibility at each level (Day3)



The responsibility lies in the

- Faculty Members
- Program – Quality Assurance Committee (QAC), Department Chair, Academic/Curriculum Committee,

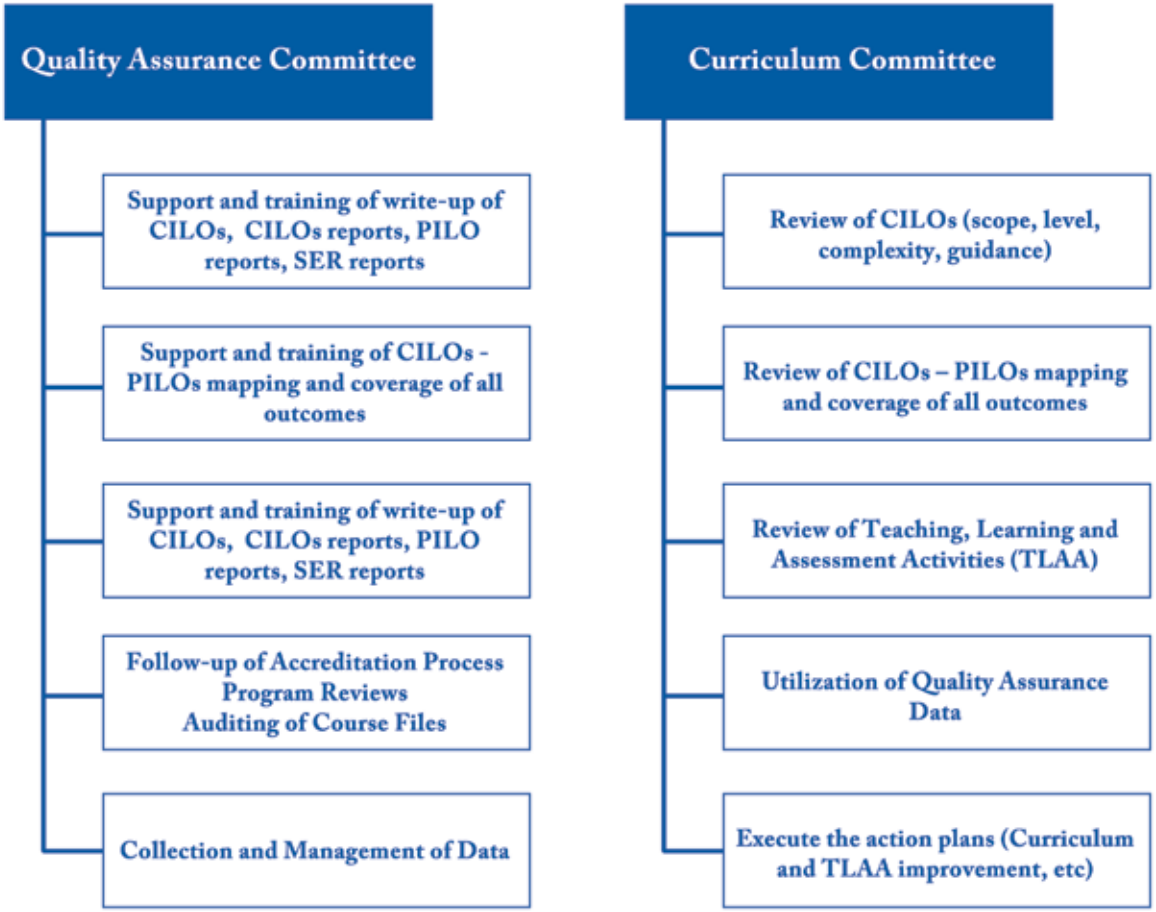
The responsibility lies in the

- Faculty Members
- Program – Quality Assurance Committee (QAC),
- Academic/Curriculum Committee,
- College – Quality Director (QD),
- Department Chair,
- College Dean

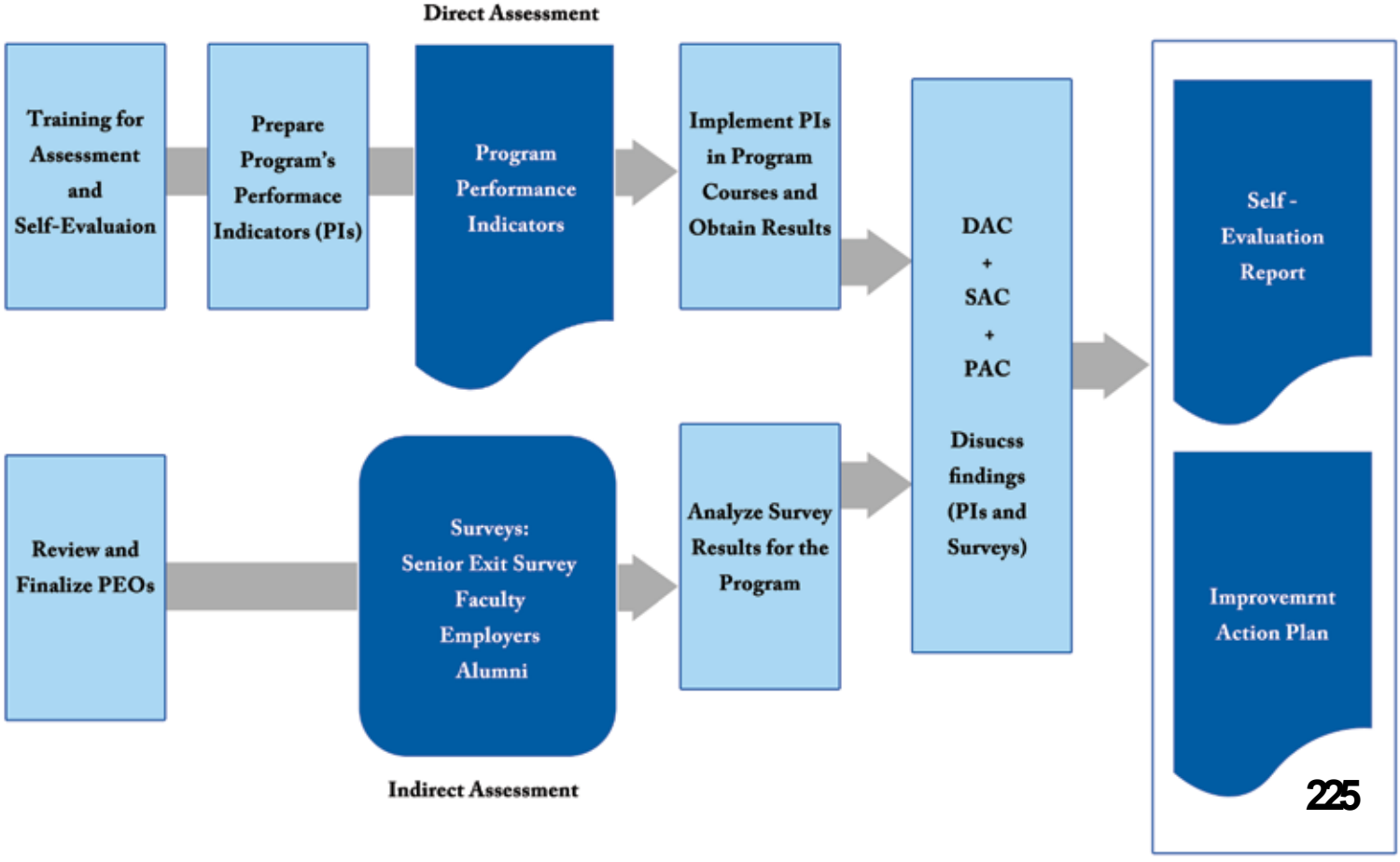
The responsibility lies in the

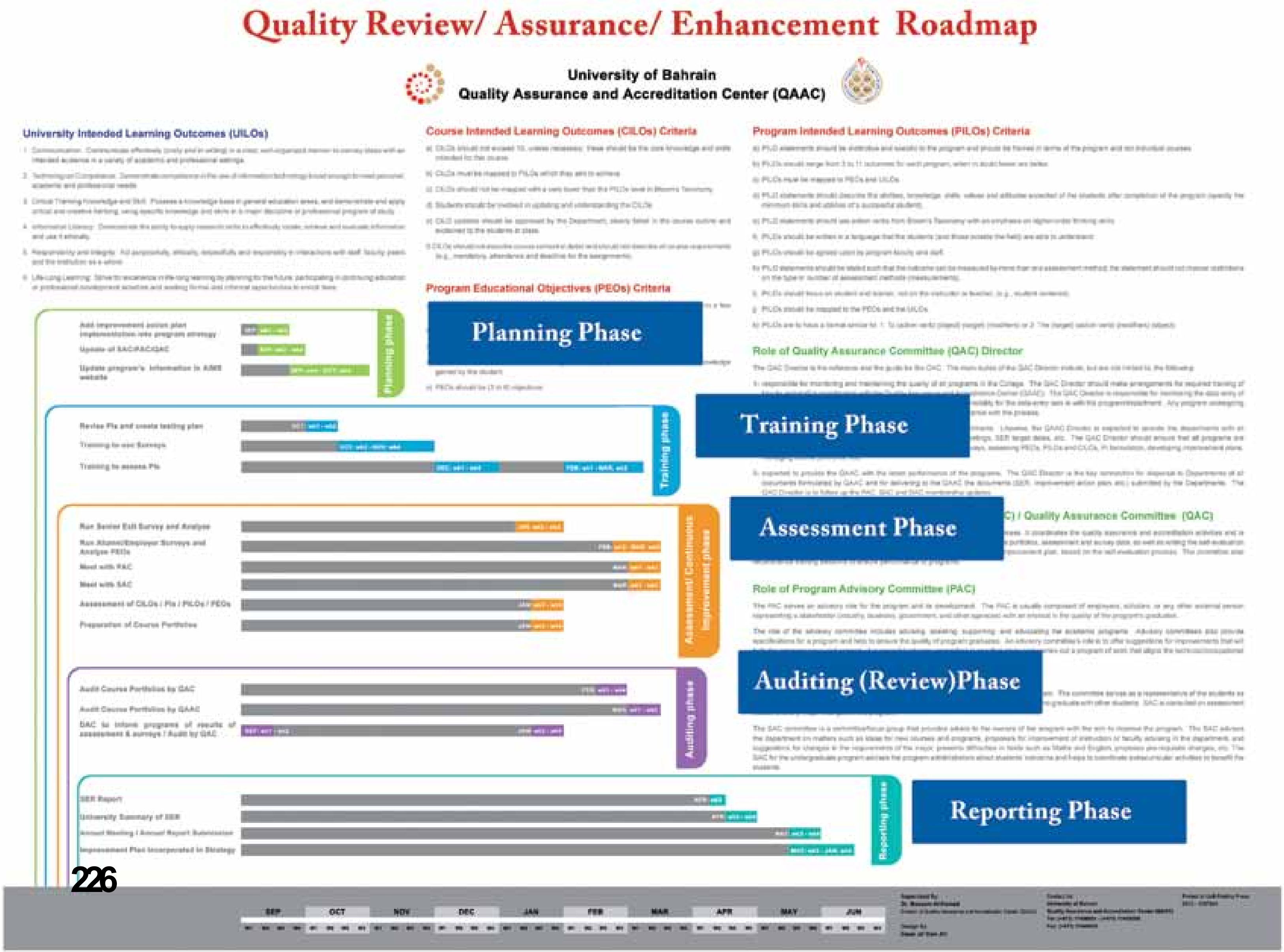
- Faculty Members
- Program – Quality Assurance Committee (QAC),
- Department Chair,
- Academic/Curriculum Committee,
- College – Quality Director (QD), Dean
- University – Quality Manager (QM),
- Top Management

Quality Assurance and Curriculum Committees Functions (Day3)

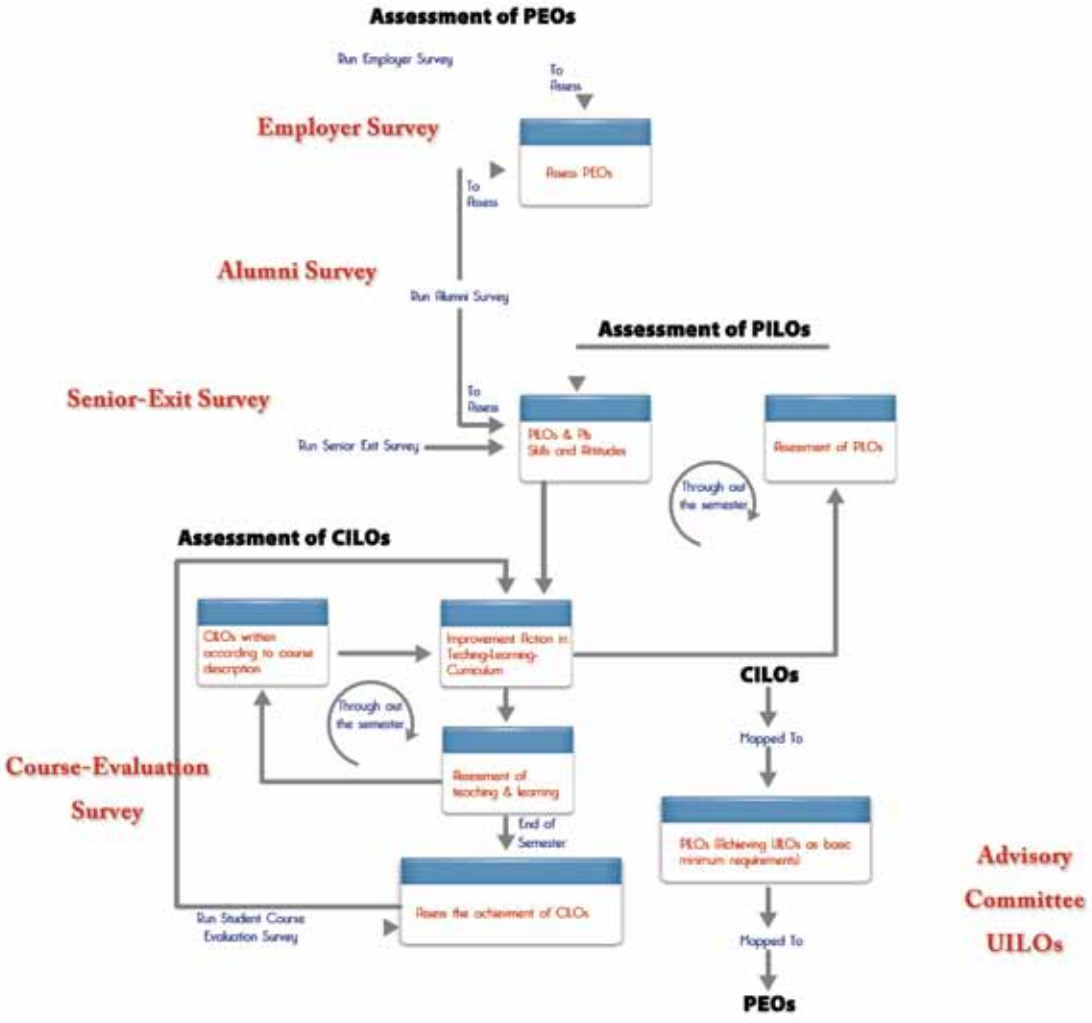


Processes of Quality Assurance at UOB - Self-Evaluation and Improvement Report (Day3)




Quality Review/ Assurance/ Enhancement Roadmap
University of Bahrain
Quality Assurance and Accreditation Center (QAAC)
University Intended Learning Outcomes (UILOs)
Course Intended Learning Outcomes (CILOs) Criteria
Program Intended Learning Outcomes (PILOs) Criteria
Program Educational Objectives (PEOs) Criteria
Role of Quality Assurance Committee (QAC) Director
Role of Program Advisory Committee (PAC)
Planning Phase
Training Phase
Assessment Phase
Auditing (Review)Phase
Reporting Phase
Planning phase
Training phase
Assessment/ Continuous Improvement phase
Auditing phase
Reporting phase
SEP
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN

Assessment Cycle (Day3)



Policies and Procedures (Day3)

- Surveys
- Meeting with Advisory Committees
- Reviewing and auditing programs
- Assessment strategy
- Program change policies and procedures
- Examination Policy
- Self-Review Policy and Procedures

Policies and Procedures: (Day3)

Programs Development

- The institution's policy on design, approval and verification of programs and awards should articulate its commitment to setting up and maintaining effective arrangements to ensure that all programs and curricula are well designed, adequately approved and their level and credit verified against NQF standards for level and credit.

Access, Transfer, Progression

- The institution should establish clear access, transfer and progression policy and associated documentation as part of its quality assurance system. The institution's policy on access, transfer and progression should express its commitment to enable learners, including those with special needs, make informed choices on the program and courses they wish to follow, allow them to enter into a program on the basis of their prior learning, gained through different ways

Policies and Procedures: (Day3)

Assessment and Verification of Learner Achievement

- Institution's policy on assessment of student progress and achievement reflects its responsibility for determining adequate approaches, methodologies and processes for the assessment and verification of learner achievement and assessment results. In developing procedures for fair and consistent assessment, which are properly communicated to learners so that they know what is expected of them in achieving progress towards the award of qualification, institution ensures consistency with the learning outcomes of the NQF level and credit. Institution should establish and apply, as part of its quality assurance mechanism for assessment, a process for fair assessment and recognition of prior learning

Stakeholder Confidence and their input for review of programs

- Institution shows its commitment to establish stakeholder confidence in the quality and standards of its provision through its arrangements for regular monitoring and periodic review of all its programs in order to secure their continuing relevance and currency of intended learning outcomes, and continued alignment with the national framework of qualifications

Policies and Procedures: (Day3)

Means of collecting and analyzing information

- The institution is committed to provide the means of collecting and analyzing information about its own activities and expand the range of its self-knowledge to enable access to possible ways of improving its own performance and compare with other similar organizations and study programs

Surveys

- When to conduct the surveys?
- How and Who will conduct?
- How and Who will analyze?
- How and Who will follow-up on the analysis and come up with improvement action?
- How and who will put the action plan?
- How and who will quality assure that the process of conducting to putting action plans is happening?
- How and who will ensure that there is enhancement out of the whole process? Closing the Loop

Policies and Procedures: (Day3)

Meeting with Advisory Committees

- What is the purpose of the Advisory Committee?
- Who will form the advisory committees?
- How frequent should they meet?
- What type of Agenda and feedback is to be as an output of the meetings?
- Who will follow-up on actions?

Reviewing and auditing programs

- Who is responsible for quality assurance and quality control?
- What is the process of audit? How will the action plans be generated and followed-up?
- Who and how will quality enhancement be maintained?
- What will be audited? Who will audit? What are the criteria for auditors?

Policies and Procedures: (Day3)

Assessment strategy

- What is the standard for assessment type, length, complexity, scope, number, frequency, timeline? Does that go against the academic freedom?
- Who will check the level of the assessment to be aligned with the CILOs
- How assessments are arranged and planned? Is it different for multi-sections of the same course?

Program Development

- Who can propose the change in the program? Can the program change the items in the program at all means, or it depends on the type of change?
- Who is responsible to review and confirm the validity of the change?
- Who will approve the changes in the program?
- What are the processes related to return and re-submission of the program?

Policies and Procedures: (Day3)

Self-Review Policy and Procedures

- When is Self-review report submitted
- How frequent? Who will submit it?
- Who will manage submitting it?
- Who will generate the follow-up actions?
- Who will review the self evaluation reports and looks thoroughly to its efficiency

Examination Policy

- Examination: when and how does it support achieving the outcomes in regards to all learners
- Who undergoes the examination?
- Percentages of the examination?
- Timings of the examination?
- Location of the examination?
- Entry to examination room?
- General rules to examination?

Building structure for Program Improvement (Day3)

Who is responsible at each level?

The responsibility lies in the

- Program – Quality Assurance Committee (QAC), Department Chair, Academic/Curriculum Committee, Faculty Members

The responsibility lies in the

- Program – Quality Assurance Committee (QAC), Department Chair, Academic/Curriculum Committee, Faculty Members

- College – Quality Director (QD), Dean

The responsibility lies in the

- Program – Quality Assurance Committee (QAC), Department Chair, Academic/Curriculum Committee, Faculty Members

- College – Quality Director (QD), Dean
- University – Quality Manager (QM), TM

Tools to support program improvement (Day3)

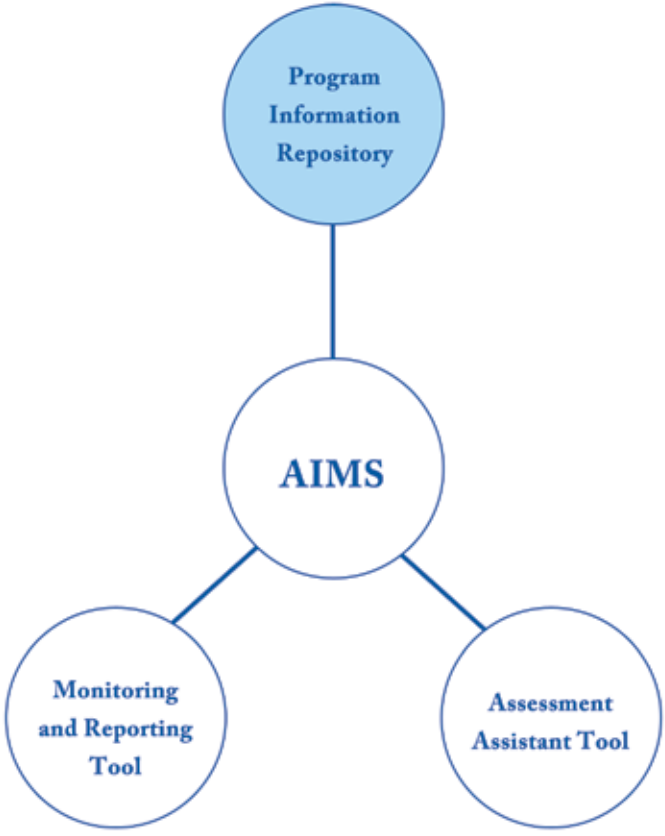
Assessment Information Management System (AIMS) website

- Knowledge Management Tool
- Assessment Assisting Tool
- Information Management System
- Monitoring and Reporting Tool

Excel Assessment Tool

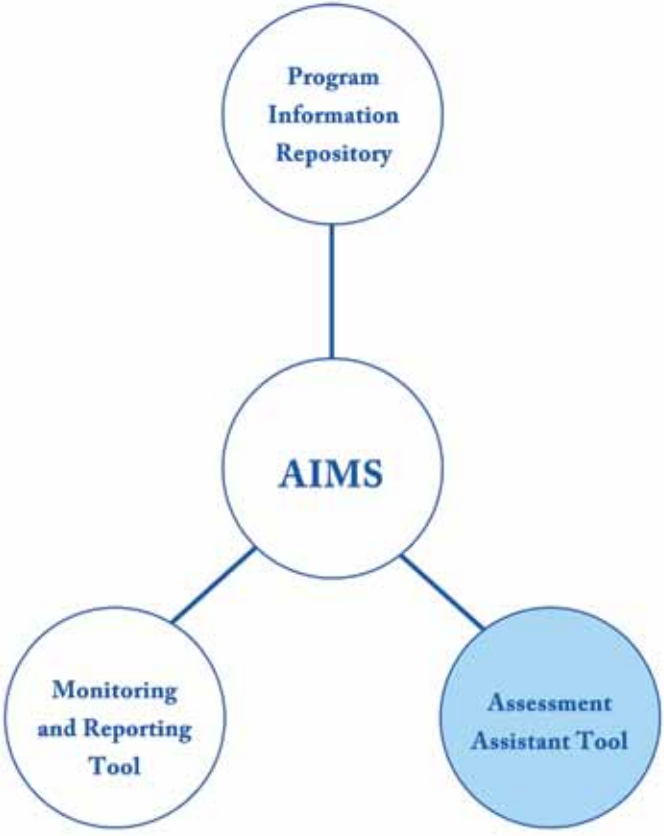
- Assessment
- Generating Reports of Assessment

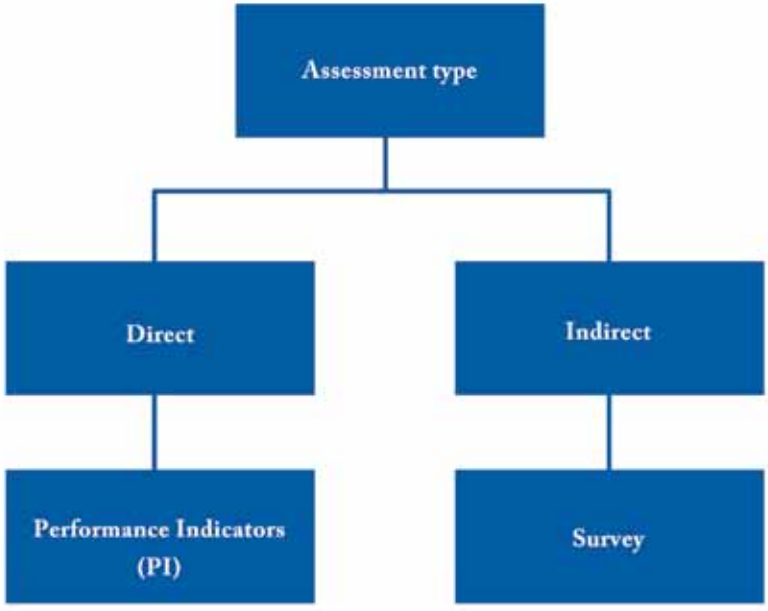
Knowledge Management Tools for Quality Assurance Processes (Day3)



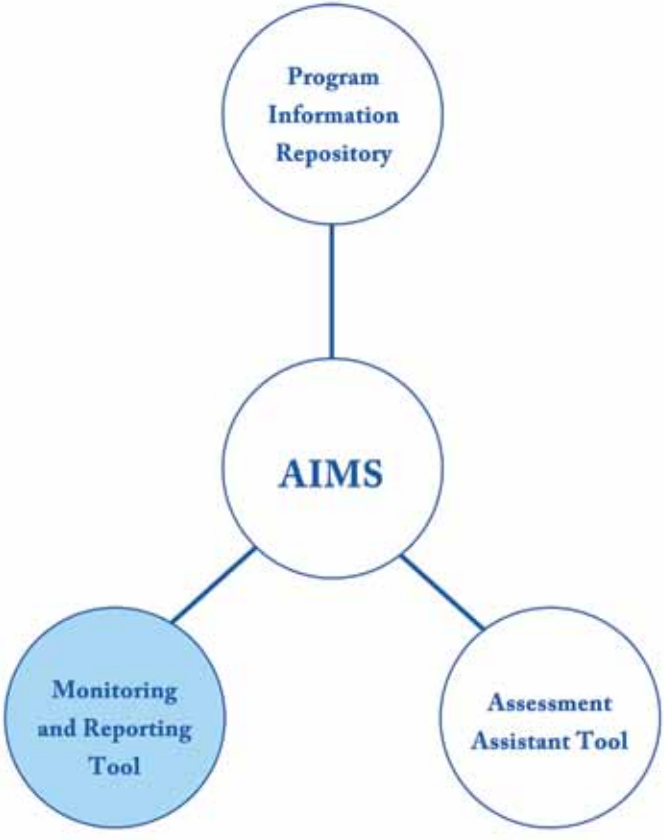
UoB	- University Mission - University Intended Learning Outcomes (UILOs)
College	- College's Mission
Department	- Department's Mission - Faculty Members' Profile
Program	- Program Committees - Program Societies
Program Version	- Program Version Specification - Program Curriculum - Performance Indictors (PIs)
Course	- Course Specification - Course Assessment

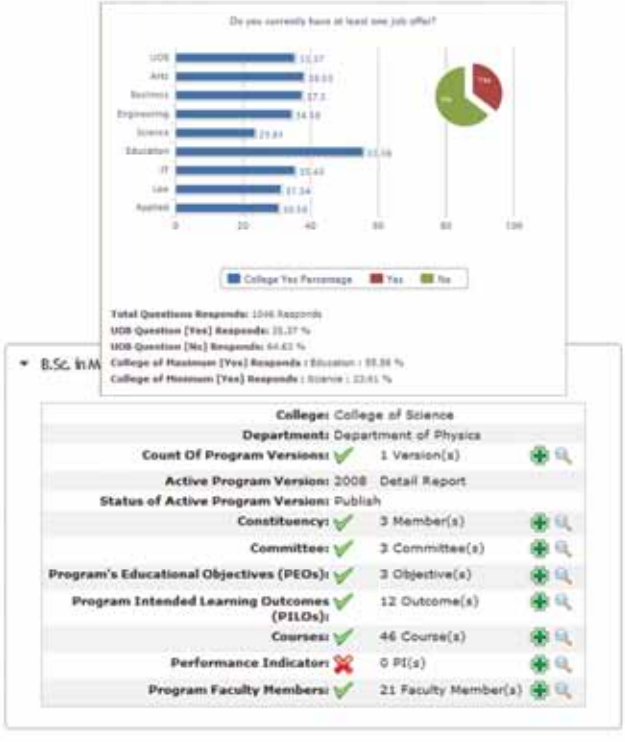
Knowledge Management Tools for Quality Assurance Processes (Day3)





Knowledge Management Tools for Quality Assurance Processes (Day3)





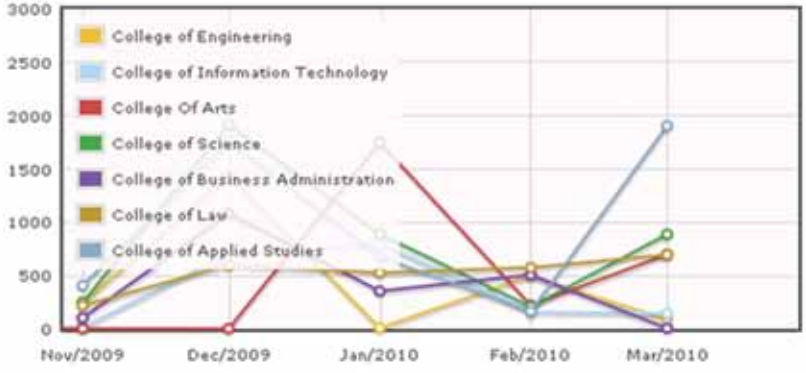
University of Bahrain
Quality Assurance and Accreditation Center

Administrator Dashboard

Welcome : Dr. Hesham Al-Ammal | Home | Logout

Administrator Dashboard

- DEPARTMENTS
- UNIVERSITY HIERARCHY
- SEMESTERS
- SYSTEM USERS
- INDIVIDUALS
- SYSTEM ACCOUNT
- SURVEYS
- REPORT
- SYSTEM LOG



Open Survey Status | AIMS Actions | Login Log | AIMS Counters

Current Semester: 2009/2010 : First

Senior_Exit_Survey : Graduating Students survey		
Completed		937 : 58.93%
Not Completed	*In process* 173	653 : 41.07%

University of Bahrain
Quality Assurance and Accreditation Center

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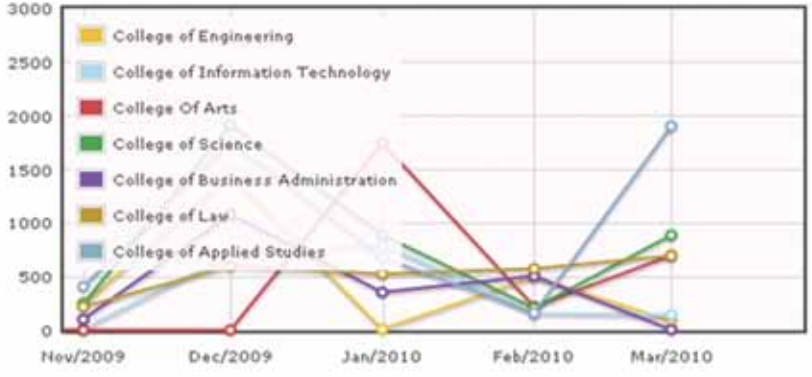

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University of Bahrain
Quality Assurance and Accreditation Center

QAO Department Summary Report

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Report > QAO Department Summary Report

- CURRENT PROGRAM VERSION
- CURRENT PROGRAM
- CURRENT DEPARTMENT
- DEPARTMENTS
- UNIVERSITY HIERARCHY
- SEMESTERS
- SYSTEM USERS
- INDIVIDUALS
- SYSTEM ACCOUNT
- SURVEYS
- REPORT
- SYSTEM LOG

Business and IT Programs

College's Name College of Applied Studies

Department Faculty Members	✓	40 Faculty Member(s)
Count Of Department Program	✓	8 Program(s)

Program	Version	Active	Status	Constituency	PEOs	PILOs	Mapping	Courses
Associate Diploma in Software Development and Databases Detail Report	✓ 2	2009	Publish	✓ 4	✓ 5	✓ 8	U ✓ P ✓ D ✓ U 18 P 14 D 18	✓ 24
Associate Diploma in Web Design and Management Detail Report	✓ 2	2009	Publish	✓ 4	✓ 5	✓ 8	U ✓ P ✓ D ✓ U 19 P 15 D 21	✓ 24

University of Bahrain
Quality Assurance and Accreditation Center

QAO Department Summary Report

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Report > QAO Department Summary Report

- CURRENT PROGRAM VERSION
- CURRENT PROGRAM
- CURRENT DEPARTMENT
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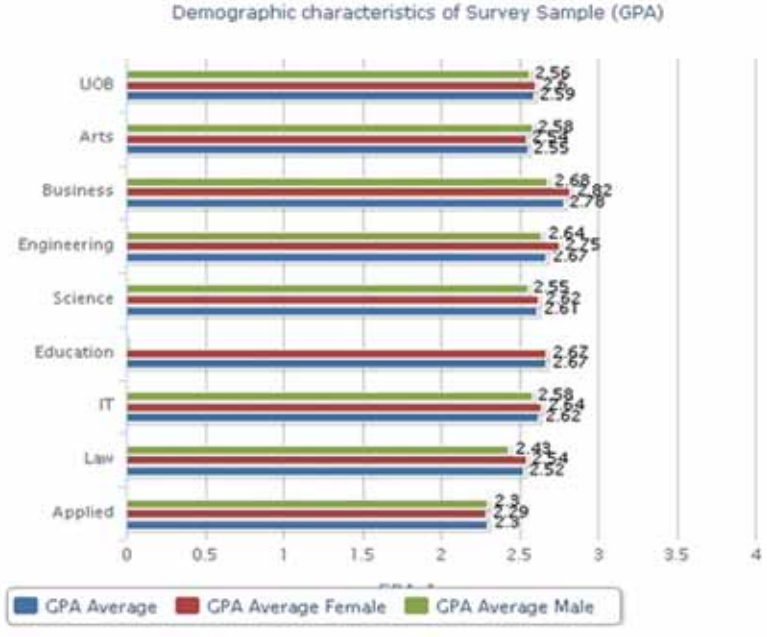
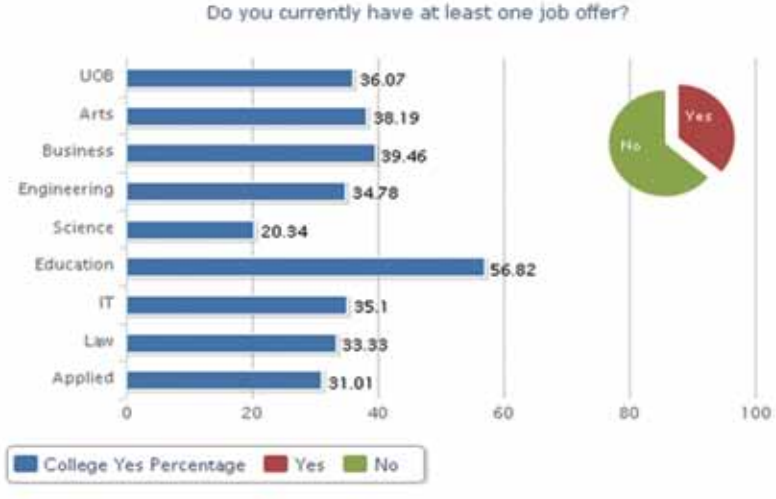
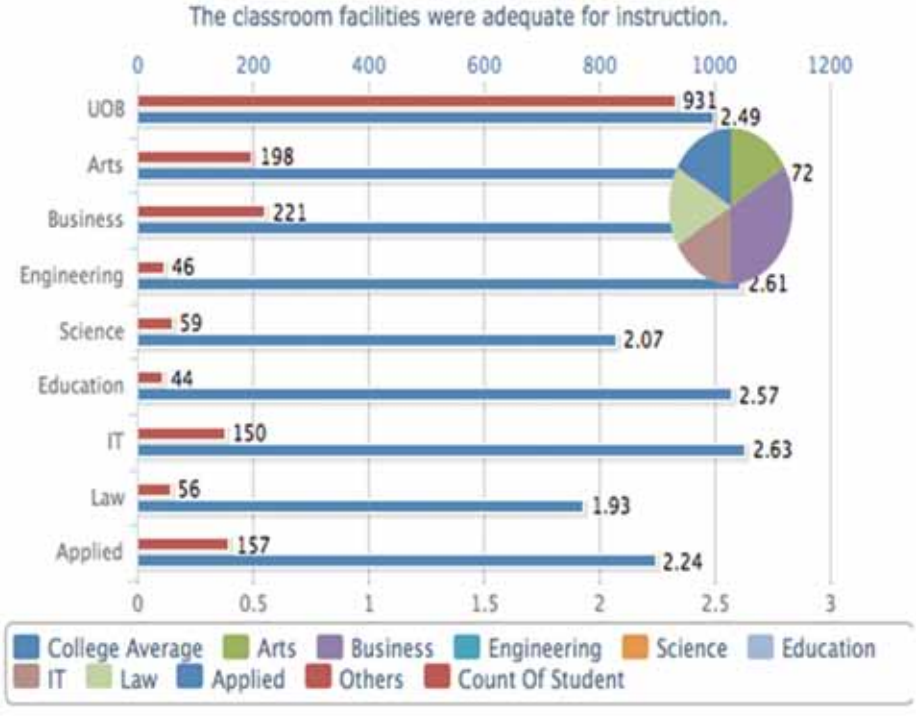
Associate Diploma in Web Design and Management Detail Report	✓ 2	2009	Publish	✓ 4	✓ 5	✓ 8	U ✓ P ✓ D ✓ U 19 P 15 D 21	✓ 24


Demographic characteristics of Survey Sample (GPA)
UOB
Arts
Business
Engineering
Science
Education
IT
Law
Applied
2.56
2.59
2.58
2.55
2.68
2.70
2.64
2.67
2.55
2.61
2.67
2.67
2.58
2.62
2.43
2.52
2.3
2.29
2.3
0
0.5
1
1.5
2
2.5
3
3.5
4
GPA Average
GPA Average Female
GPA Average Male


Do you currently have at least one job offer?
UOB
Arts
Business
Engineering
Science
Education
IT
Law
Applied
36.07
38.19
39.46
34.78
20.34
56.82
35.1
33.33
31.01
0
20
40
60
80
100
Yes
No
College Yes Percentage
Yes
No



Total Questions Responds(with N/A): 937 Responds

Total Questions Responds(without N/A): 931 Responds

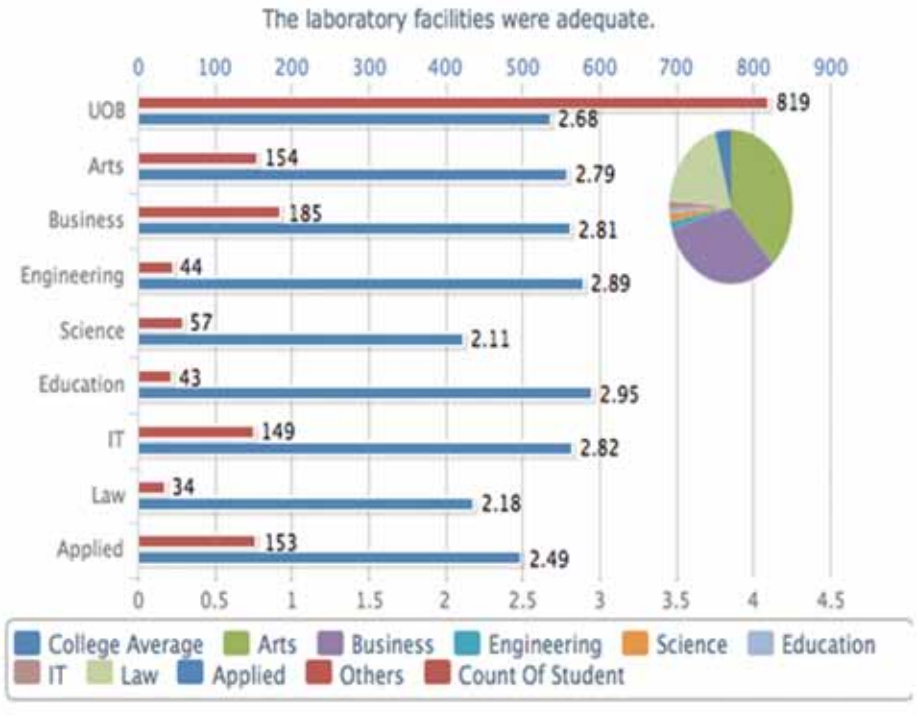
UOB Question Average: 2.49 / 5

UOB Question Average: Without Filtering Option 2.49 / 5

UOB Question Average [Female]: Without Filtering Option 2.44 / 5 **Total Female:** 689

UOB Question Average [Male]: Without Filtering Option 2.63 / 5 **Totle Male:** 242

College of Maximum Average : Arts : 2.72 / 5



Total Questions Responds(with N/A): 937 Responds

Total Questions Responds(without N/A): 819 Responds

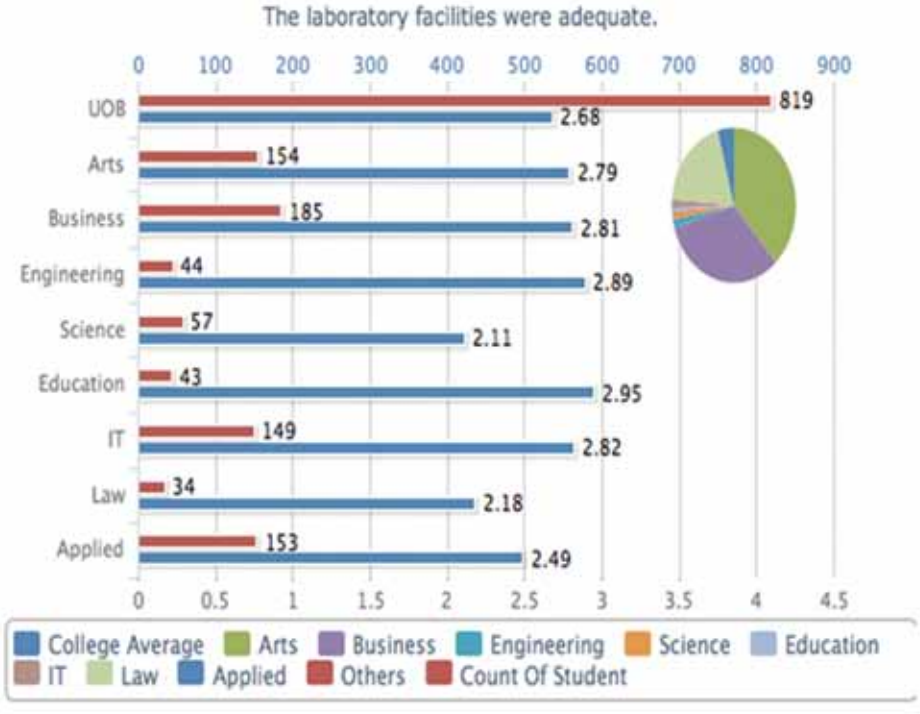
UOB Question Average: 2.68 / 5

UOB Question Average: Without Filtering Option 2.68 / 5

UOB Question Average [Female]: Without Filtering Option 2.65 / 5 **Total Female:** 595

UOB Question Average [Male]: Without Filtering Option 2.78 / 5 **Totle Male:** 224

College of Maximum Average : Education : 2.95 / 5



Total Questions Responds(with N/A): 937 Responds

Total Questions Responds(without N/A): 819 Responds

UOB Question Average: 2.68 / 5

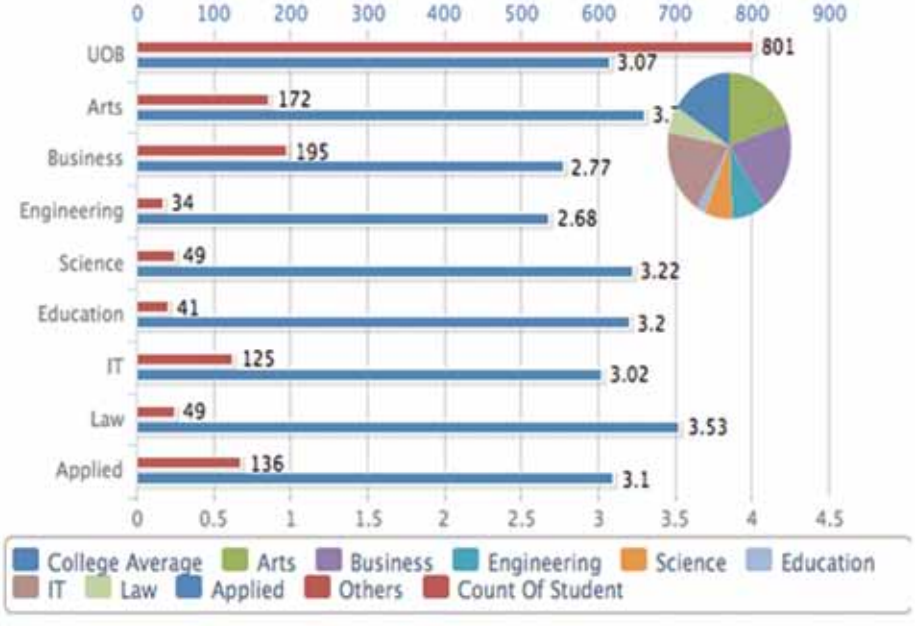
UOB Question Average: Without Filtering Option 2.68 / 5

UOB Question Average [Female]: Without Filtering Option 2.65 / 5 **Total Female:** 595

UOB Question Average [Male]: Without Filtering Option 2.78 / 5 **Totle Male:** 224

College of Maximum Average : Education : 2.95 / 5

I benefitted from the career counseling center for preparing for the job market.



Total Questions Responds(with N/A): 937 Responds

Total Questions Responds(without N/A): 801 Responds

UOB Question Average: 3.07 / 5

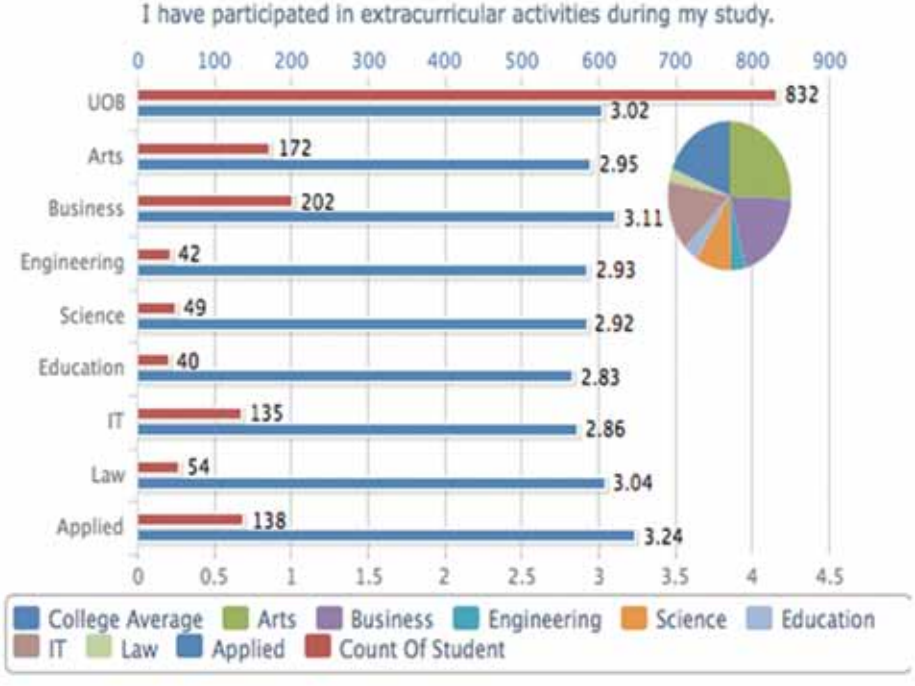
UOB Question Average: Without Filtering Option 3.07 / 5

UOB Question Average [Female]: Without Filtering Option 3.09 / 5 **Total Female:** 588

UOB Question Average [Male]: Without Filtering Option 3.03 / 5 **Totle Male:** 213

College of Maximum Average : Law : 3.53 / 5

College of Minimum Average : Engineering : 2.68 / 5



Total Questions Responds(with N/A): 937 Responds

Total Questions Responds(without N/A): 832 Responds

UOB Question Average: 3.02 / 5

UOB Question Average: Without Filtering Option 3.02 / 5

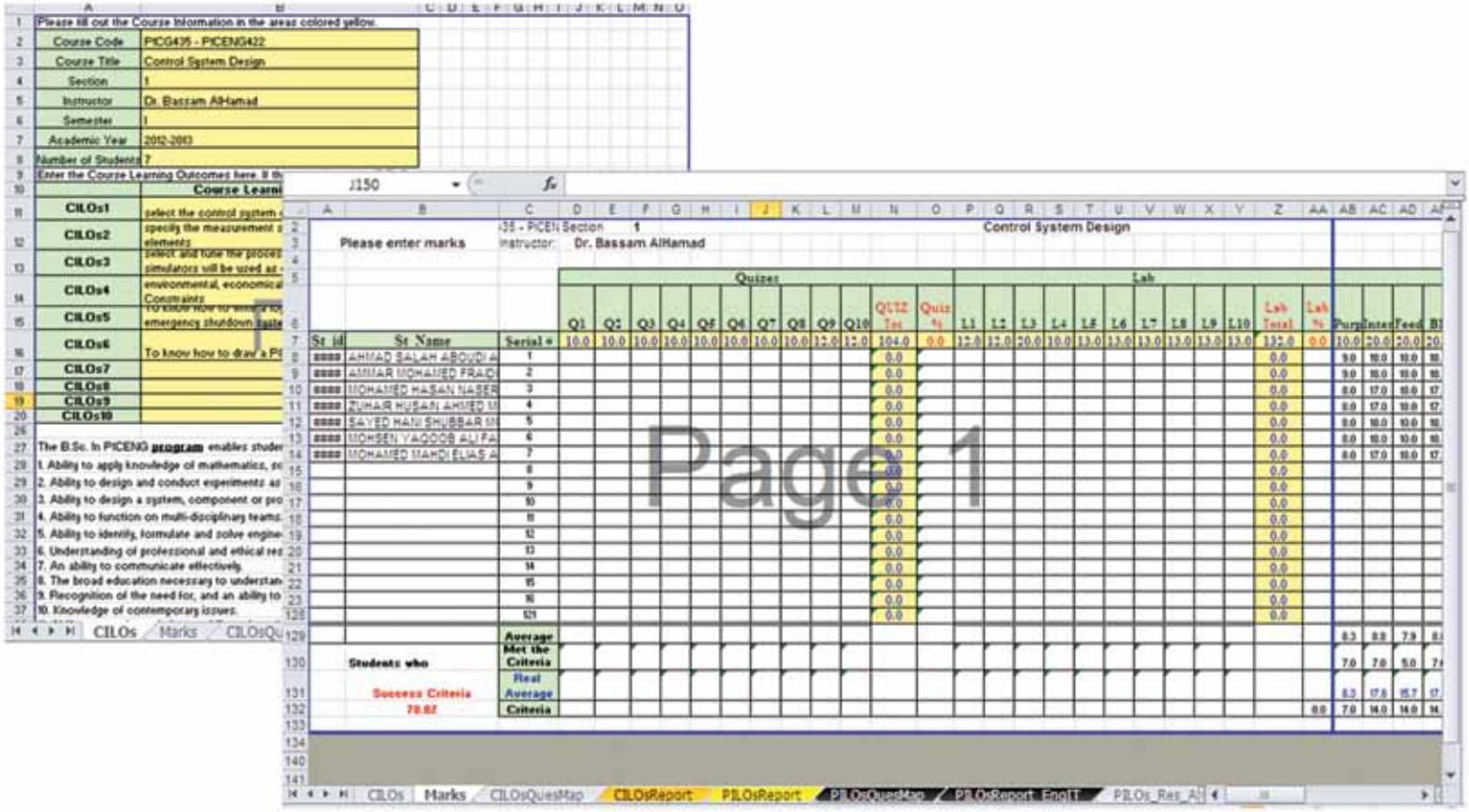
UOB Question Average [Female]: Without Filtering Option 3.02 / 5 **Total Female:** 602

UOB Question Average [Male]: Without Filtering Option 3.01 / 5 **Totle Male:** 230

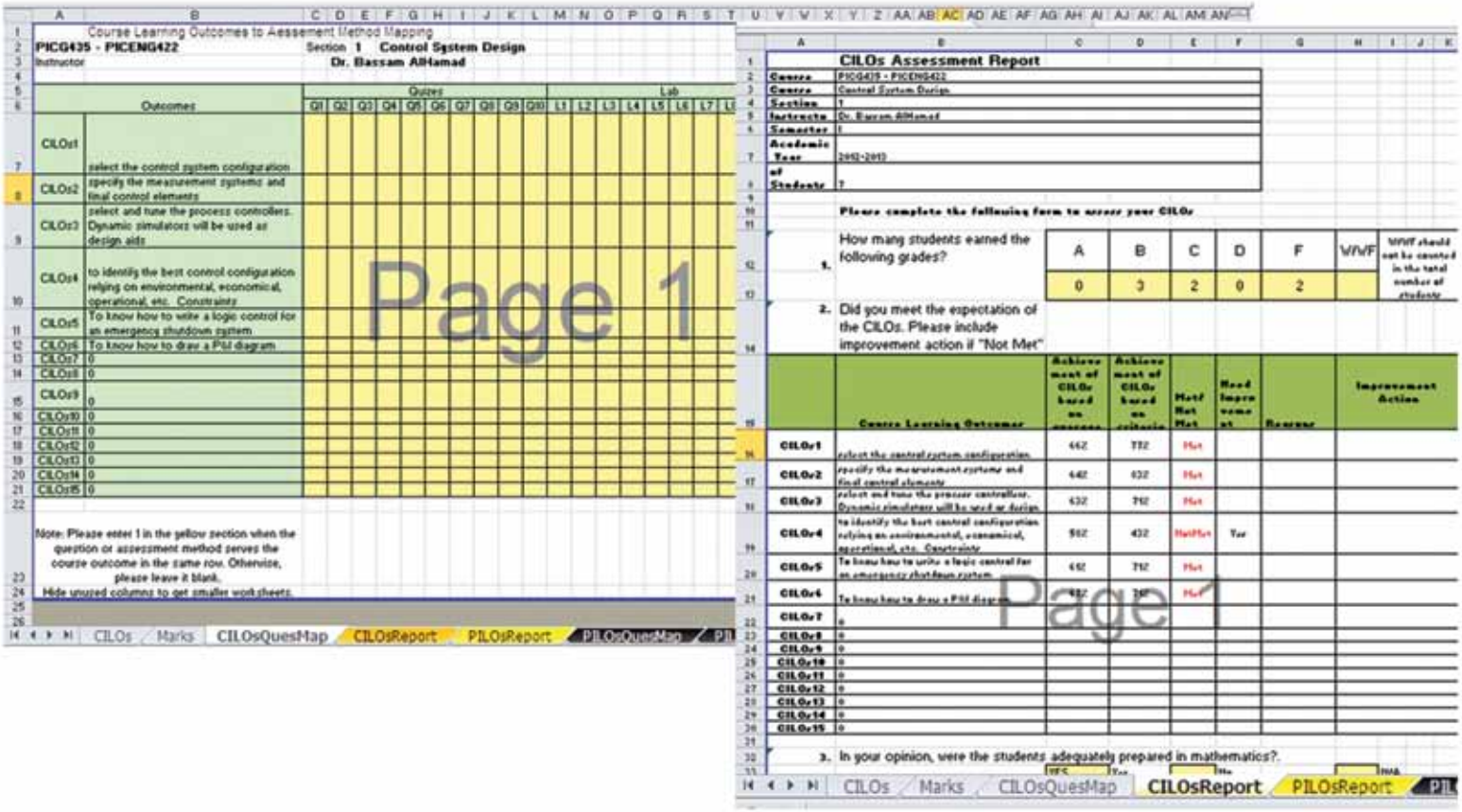
College of Maximum Average : Applied Studies : 3.24 / 5

College of Minimum Average : Education : 2.83 / 5

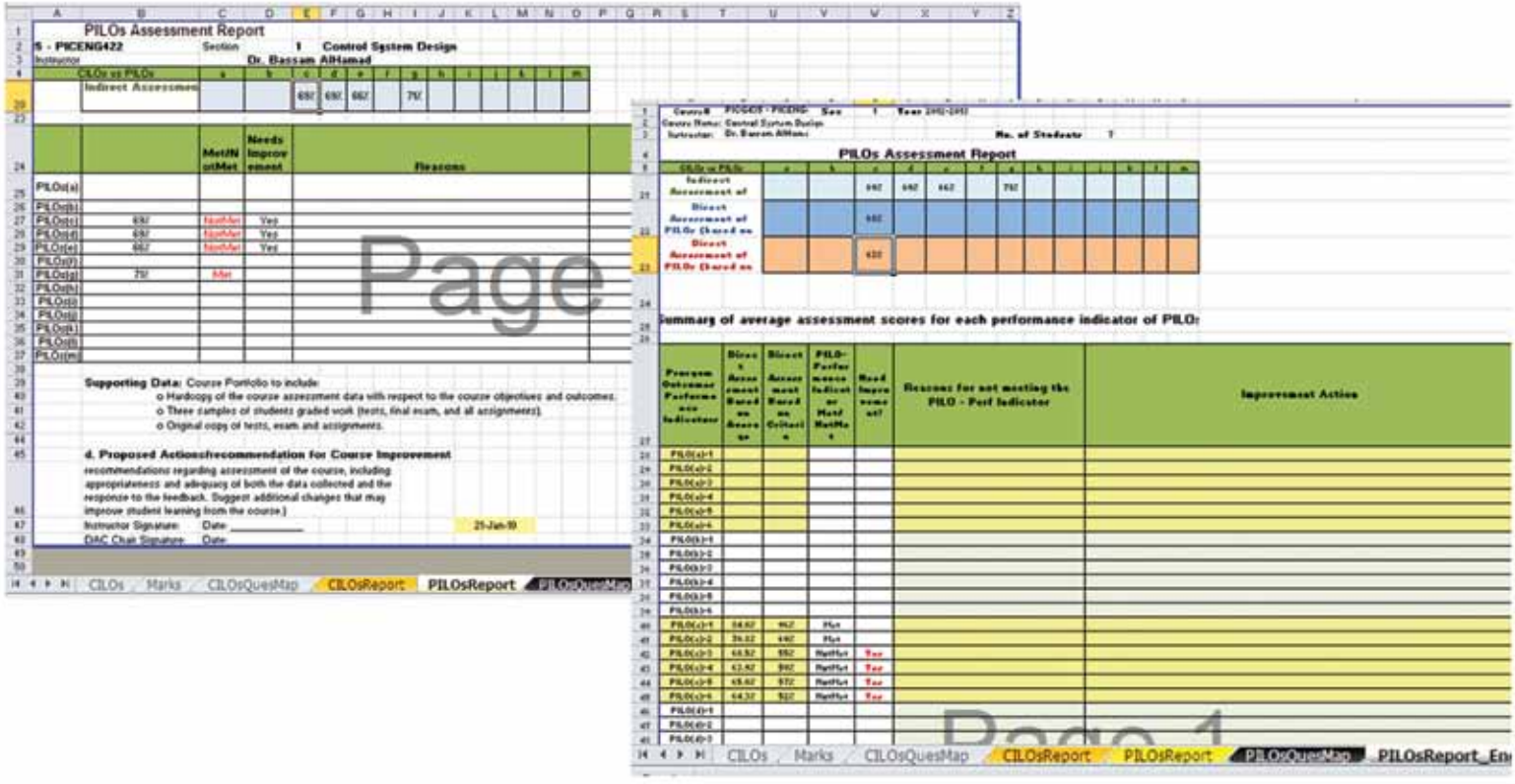
Assessment Tool (Day3)

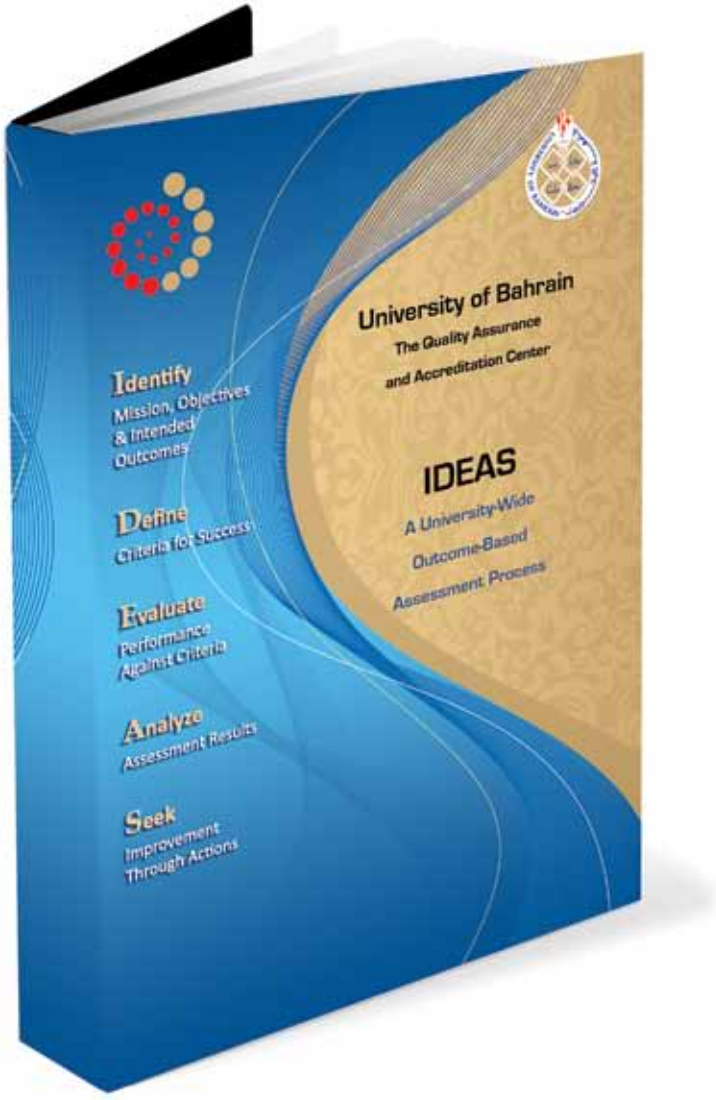


Assessment Tool (Day3)



Assessment Tool (Day3)





Resources: Outcomes Based Assessment Handbook (Day3)

- Journal/Proceedings Publications
- Conferences/ Symposium
- Training Workshops
- Books: The outcomes based handbook states and explain the concept of the outcomes based assessment and the tools that would ensure a continuous improvement process. The book is a training tool for all readers. The book also provides guidelines wherever needed.

Resources: Social Networks (Day3)

Objective of Using Social Networks:

- Provide insight about quality assurance to maintain currency of QA knowledge
- Inform stakeholders about quality assurance activities
- Answer stakeholders inquires, and responding to their suggestions

Performance Improvement Process (Day3)

Goals	Initiatives
1. Raising the quality of teaching and learning	1. Establish a foundation year to strengthen student orientation 2. Enhance student advising and mentoring 3. Integrate outcome-based assessment into curriculum 4. Improve system quality monitoring for further improvement 5. Strengthen postgraduate programs 6. Enhance professional development of faculty 7. Build student entrepreneurship skills 8. Establish and implement accountability system for reviewing faculty performance 9. Obtain national and international accreditation
2. Improving quality and increasing the amount of research	10. Establish a research strategy 11. Establish a research fund 12. Adapt international best-practice for reviewing the quality of research outcomes

Goals	Initiatives
3. Building national and international partnerships	13. Create strategic centers of excellence and university-industry innovation centers 14. Increase international students exposure 15. Increase alumni participation in a broader range of roles at the university
4. Aligning governance and administration with international best practice	16. Review the university's organizational structure and streamline operations for efficiency 17. Establish in-depth staff development strategy 18. Develop an advanced comprehensive university database system 19. Include administrative and support units in quality assurance and assessment routines 20. Establish clear and formal job description for all positions 21. Establish and implement academic rules and regulations
5. Sustainable infrastructure and resources	22. Efficiently utilize UOB infrastructure and resources 23. Establish strategies to aggressively grow the endowment and increase alumni fund raising 24. Uphold a socially responsible campus

Example Performance Improvement Process (Day3)

Goals	Initiatives	Current Situation	Next Step	Milestone	Responsibility
1. Raising quality of teaching and learning to meet rigorous international standards	1.1 National and international accreditation	Six Engineering programs internationally accredited (ABET	IT programs submit Programs Self Study Reports	IT Programs reviewed by ABET September (2010)	College Dean and QAAC
2. Improving quality and increasing amount of applied research	2.1 Establish a research strategy	Individual research not applied (78 international journal papers) (Scopus - 2008)	Review current status of research output and develop a draft research strategy	Implement the new research strategy and increase research budget by 40% from private sector (2014)	Deanship of Scientific Research

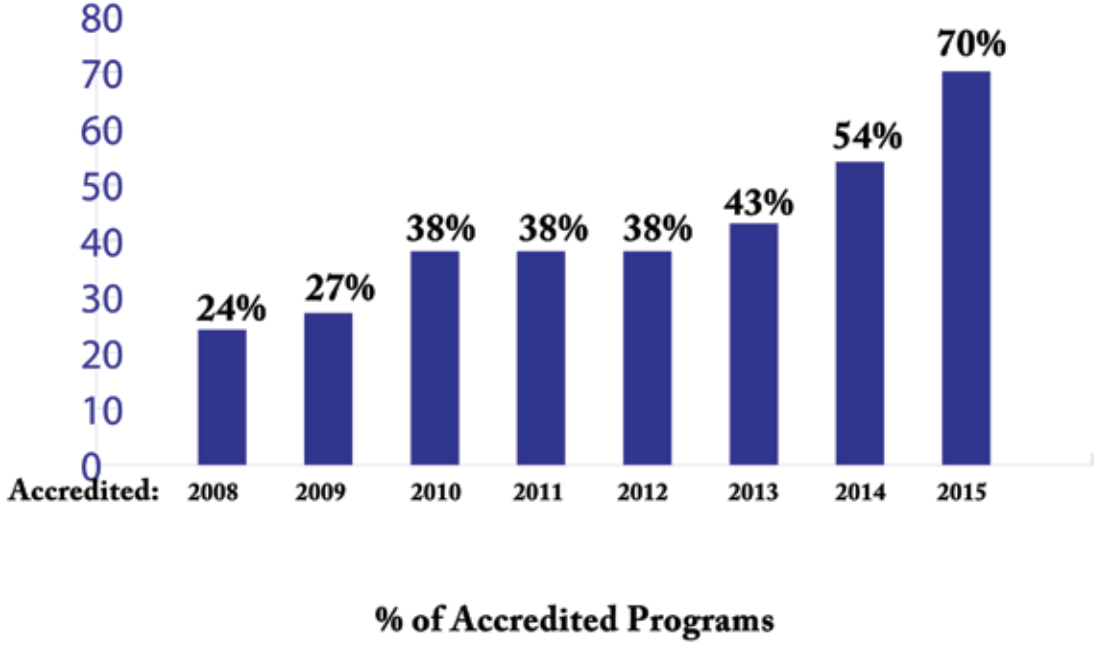
Goals	Initiatives	Current Situation	Next Step	Milestone	Responsibility
3. Building national and international partnerships	3-1 Build strategic international academic partnerships	Limited linkages with international academic institutes and lack of coordination and follow up within UOB	Target leading institutions for active partnership	Every program should have established at least one significant partnership (2012)	President's Office
4. Aligning governance & administration with international best practice	4-1 Review of university's organizational structure for distribution of roles, responsibilities, and decision rights and authorities	Poor organizational structures and processes, and Limited administrative performance	Appoint independent and experienced panel of professionals to review administrative policies, practices, and procedures	Receive panel's report and Implement an action plan for change (2011)	President's Office

Example Performance Improvement Process (Day3)

Goal 1 Raising quality of teaching and learning to meet rigorous international standards

Goals	Current Situation	Next Step	Milestone	Responsibility
National and International accreditation	• Six Six Engineering programs internationally Accredited (ABET, 2009) • Three IT programs ready to apply in Jan 2010 (ABET) • Chemistry program reviewed by Canadian Chemistry Society (CSC) (Apr 2009) • UNDP reviewed Computer Science, Accounting, & Chem. Eng. (2004-2005) • QAAET and AUQA pilot study review of UOB (Aug 2008) • QAAET review of Business Management program (June 2009)	• IT programs submit SSR • Prepare programs for review (as scheduled by QAAET) • Select International Accrediting Agencies for other programs.	• IT Programs reviewed by ABET September (2010) • Achieve confidence in QAAET review of All programs (2014) • 70% of UOB programs internationally accredited (2014)	College Dean and QAAC

Including the Program Improvement in the Strategic Plan



Example Performance Improvement Process (Day3)

Goal 1 Raising quality of teaching and learning to meet rigorous international standards

Goals	Current Situation	Next Step	Milestone	Responsibility
1-4 Improve system of quality monitoring for further improvements	• Four online surveys (alumni, employer, a graduating senior, faculty) developed and applied to all Engineering and IT programs • Stakeholder involvement in reviewing and monitoring programs through Industrial Committees were established for all Engineering and IT programs and a few other programs • QAAC developed new advising and monitoring system for all students.	• Develop online surveys for all programs • Establish Self-Study Report (SSR format) • Establish assessment process through training faculty	1. Implement online surveys for all programs (Dec. 2009) 2. 2. Produce annual self-evaluation report (SER) for all programs and university (Sep 2010) • (56% to 85%) for all BSc Programs 3. 3. Monitoring student satisfaction and performance annually (Dec 2010)	Dean, QAO, QAAC, Deanship of Admission Dean, QAO, QAAC, Deanship of Admission Dean, QAO, QAAC, Deanship of Admission

E.1(a) Workstream (3) (Day3)

<table>
<tr><th colspan="2">Workstream description</th><th>Milestone</th><th>Tasks</th><th>Planned Start Date</th><th>Planned Delivery Date</th></tr>
<tr><td colspan="2" rowspan="2">Integrate outcome-base assessment into curriculum</td><td rowspan="3">Implemented outcome-based assessment in all university programs</td><td>Develop University wide assessment model</td><td>May 2009</td><td>June 2010</td></tr>
<tr><td>Conduct wide outcome-based assessment training and workshops</td><td>October 2009</td><td>October 2010</td></tr>
<tr><td rowspan="2">Planned Start Date
2009</td><td rowspan="2">Planned Delivery Date
2014</td><td>Develop PEOs, PILOs and CILOs for all programs</td><td>November 2009</td><td>June 2010</td></tr>
<tr><td>Planned Delivery Date
June (2010)</td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">Resources Required</td><td rowspan="2">How resources are to be acquired</td><td rowspan="2">Assessment Handbook published</td><td>Publish University Wide Assessment Handbook</td><td>May 2009</td><td>May 2010</td></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td>• Support Staff
• IT resources
• Financial Support:
Jan– Dec 2010: BD 50,000
Jan2011: BD 30,000 year</td><td>• Jan –Dec 2010
Current Budget
• January 2011 ----
New financial cycle</td><td>Planned Delivery Date
May 2010</td></tr>
<tr><td rowspan="2">Workstream Owner</td><td rowspan="2">Initiative Leader:
QAAC Director</td><td>Quality assurance website fully functional
Planned Delivery Date
June 2010</td><td>Develop and maintain Quality Assurance and Accreditation Web Site</td><td>May 2009</td><td>Continuous</td></tr>
<tr><td>Assessment Information Management online system fully functional
Planned Delivery Date
November 2010</td><td>Develop and maintain Assessment Information Management Online System</td><td>May 2009</td><td>Continuous</td></tr>
</table>

E.1(a) Workstream (4) (Day3)

<table>
<tr><th colspan="2">Workstream description</th><th>Milestone</th><th>Tasks</th><th>Planned Start Date</th><th>Planned Delivery Date</th></tr>
<tr><td colspan="2" rowspan="2">Improve system quality monitoring for further improvement.</td><td rowspan="3">Implemented online surveys for all programs</td><td>Develop online Senior Exit Surveys</td><td>May 2009</td><td>June 2010</td></tr>
<tr><td>Develop online Faculty Survey</td><td>Nov 2009</td><td>June 2010</td></tr>
<tr><td>Develop online Alumni and Employer Surveys</td><td>Nov 2009</td><td>June 2010</td></tr>
<tr><td colspan="2"></td><td>Planned Delivery Date</td><td></td><td></td><td></td></tr>
<tr><td>Planned Start Date</td><td>Planned Delivery Date</td><td>June 2010</td><td></td><td></td><td></td></tr>
<tr><td>May 2009</td><td>Dec 2014</td><td rowspan="2">Annual self-evaluation report submitted (SER) for all programs and university</td><td>Produce annual self-evaluation report (SER) for all programs and university</td><td>Jun 2010</td><td>Yearly</td></tr>
<tr><td>Resources Required</td><td>How resources are to be acquired</td><td></td><td></td><td></td></tr>
<tr><td>• Support Staff
• IT resources
• Financial Support:
Jan– Dec 2010: BD 50,000
Jan2011: BD 50, 000 year</td><td>• Jan –Dec 2010 Current Budget
• January 2011 ---- New financial cycle</td><td>Planned Delivery Date
September 2010</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Student satisfaction and performance monitoring system implemented</td><td>Implement all online surveys</td><td>February 2010</td><td>continuous</td></tr>
<tr><td></td><td></td><td>Planned Delivery Date
June 2010</td><td></td><td></td><td></td></tr>
<tr><td>Workstream Owner</td><td>Initiative Leader:
QAAC Director
Committee Members:
7 Colleges' Quality Assurance Offices directors</td><td>Planned Delivery Date</td><td></td><td></td><td></td></tr>
</table>

E.1(a) Workstream (9) (Day3)

Workstream description		Milestone	Tasks	Planned Start Date	Planned Delivery Date
Obtain national and international accreditation		IT Programs reviewed by ABET	Prepare and submit application	Dec 2009	Jan- 2010
			Prepare 6 program self study reports and submit to ABET	October 2009	Jul- 2010
			Invite ABET consultants for Assessment progress review	Nov 2009	March 2010
		Planned Delivery Date	Invite ABET committee for a review	January 2010	October 2010
Planned Start Date	Planned Delivery Date	Oct 2010			
May 2009	Jun 2014	Achieve confidence in QAAET review of All programs	Prepare self assessment report s for all programs	May 2009	TBD by QAAET
Resources Required	How resources are to be acquired		Submit self study reports to QAATE	May 2009	TBD by QAAET
• Academic Staff • Support Staff • Instructional/Lab resources • Infrastructure • Financial Support: Jan– Dec 2010: BD 100,000 Jan 2011: BD 300,000/year	• Jan –Dec 2010 Current Budget • January 2011 ---- New financial cycle	Planned Delivery Date			
		2014			
		70% of UOB programs internationally accredited	Identify international accreditation agencies for each programs	January 2010	June 2010
			prepare each program for accreditation according to the schedule	June 2010	June 2014
		Planned Delivery Date			
		Jun 2014			
Workstream Owner	**Initiative Leader:** QAAC Director **Committee Members:** 7 Colleges' Quality Assurance Office directors	Planned Delivery Date			

E.1(a) Workstream (19) (Day3)

Workstream description		Milestone	Tasks	Planned Start Date	Planned Delivery Date
Include administrative and support units in quality assurance and assessment routines		Establish review model based on international best-practice	Establish the review criteria based on EFQM, M. Baldridge, and Bahrain Center for Excellence model	Sept 2009	April 2010
			Get stakeholder input regarding the model	April 2010	April 2010
			Publish the criteria including review process model	May 2010	Jun 2010
		Planned Delivery Date			
Planned Start Date	Planned Delivery Date	Jun 2010			
Sept 2009	May 2011	Test model in a pilot-study of three selected support units	Train supporting units on self-evaluation	Sept 2010	Dec 2010
			Select sample three support units	Oct 2010	Oct 2010
			Produce SER for support units	Jan 2011	March 2011
Resources Required	How resources are to be acquired	Planned Delivery Date			
		March 2011			
Resources: • EFQM Specialist • Training • Documentation and online monitoring system • Financial Support: Jan 2010 - Dec 2010 BD 40,000 Jan 2011 onward BD 60,000/yr	• Jan –Dec 2010 Current Budget • January 2011 ---- New financial cycle	Review model and start review process for all support units	Review model after pilot study	March 2011	March 2011
			Start university wide training	April 2011	Nov 2011
			Implement continuous process with bi-annual review for each support unit	Nov 2011	continuous
		Planned Delivery Date			
		Nov 2011			
Workstream Owner	**Initiative Leader:** QAAC Director **Committee Members:** QAAC representative QAAC Admin. Office representative General Director of Financial Executive Director of administration				

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Dr. Mohieldin is an Emeritus Professor of Engineering at Old Dominion University (ODU), Norfolk, Virginia, USA, with over 20 years of academic tenure position. He is currently advisor to the president of University of Bahrain for Academic Quality; as such he oversees the university quality assurance and accreditation that encompasses all academic programs and supporting units.

Prof. Mohieldin has extensive experience in University's Programs Self-Assessment and Accreditation. He is an active member of ABET, INC., USA" Formally Accreditation Board of Engineering and Technology", ABET Programs Evaluator(PEV) for Engineering and Technology programs, and an active member of USAID Higher Education Specialist for developing countries. HE served extensively as external examiner and program/institution assessor. He was US DOS Senior Fulbright Scholar in the Middle East years 2004-2006

Throughout his academic career, Dr. Mohieldin was actively engaged in research in the thermo-fluid area. He was awarded numerous research grants from National Aeronautics and Space Administration (NASA), US Department of Defense (DOD), US Department of State (DOS), US Department of Energy (DOE), and other US agencies. His 18 years of continuous experimental and computational research at NASA was instrumental in the design of the Hyper-X Space Plane (X-43) and the design of the 8-Ft Hypersonic High Temperature Tunnel (HHTT) Fuel Spray bar. He was awarded several NASA fellowships and three NASA certificates of recognition for his research contribution. He is author of over 75 refereed articles and numerous NASA Technical Reports in the areas of computational fluid dynamics, supersonic combustion, heat transfer and high speed flows.

Prof Mohieldin maintained high standards in his teaching, evolved extensive experience in distance learning education and has been responsible for the development of many undergraduate and graduate courses in the thermo-fluid area, in addition to many Computer Software Development and Applications. He is a senior member of the American Institute of Aeronautics and Astronautics, American society of Mechanical Engineers, American society of Engineering Education, American society of Refrigeration Heating and Air-conditioning, and the Fulbright Alumni Association.

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Dr. Bassam Al Hamad: Dr. Al Hamad is a key figure when it comes to industrial affairs and engineering. His unwavering talent, professionalism, and business acumen have led him to the threshold of success in his area of expertise. He is also a well – respected member of various scientific and professional societies such as the Board of Directors of Quality Productivity Center (QPC); Senior Consultancy at QPC; Process Systems Engineering Group, University of Sydney; He is a consultant for Quality Assurance and/or Reliability Engineering; Strategic Planning; and Organizational Structure Re- Engineering. Dr. Al Hamad is prolific speaker and adviser, actively participating in organizations such as Ernst & Young, Dheya Towfiqi Engineering Bureau (DTEB), Bahrain Society of Engineers (BSE), Eslah Society, Civil Aviation Affairs (CAA), Yokogawa Middle East (YME), Yokogawa Saudi Arabia (YKSA), Jahromi Contractors (JAHECO), etc. His contributions to the national and international societies are highly impressive that these will be esteemed constructive for generations to come.

Dr. AlHamad is the Director of the Quality Assurance & Accreditation Center at University of Bahrain. Dr. AlHamad is also a Member of the Excellence Team, as a Consultant for the Bahrain Centre of Excellence. He was the Member of the Team who developed the Institutional Review Report for the Quality Review by Australian Universities Quality Agency (AUQA). He was also a member of the Developing and Execution Team who developed the Institutional Review Report by Quality Assurance Authority for Education and Training (QAAET). He was the member of the Developing and Execution Team who developed the Strategic Plan for the University of Bahrain.. Formerly, he was a Department Accreditation Committee (DAC) Chair, to achieve the Accreditation of Chemical Engineering & Process and Instrumentation Engineering Programs, and the College Quality Director to follow-up the accreditation of six programs by Accreditation Board for Engineering and Technology (ABET) at College of Engineering. He also developed the system for Chemical Engineering Program review by UNDP, gaining full confidence. He worked for Consultation at Civil Aviation Affairs (CAA), Auditing Finance Department, HR Department, Training Department, Metrology Department based on ISO 9001 standards. He Developed the Training Management System (TMS) based on ISO 10015 standards at Ernst & Young. He also developed Quality Management System (QMS) based on ISO 9001 standards at JAHECO, BSE, DTEB, YKSA, YME, CAA and other smaller firms.