



**Bölüm Başkanları ve  
Bölüm ABET Koordinatörleri → BBABKo**

**Bilgilendirme Toplantısı-06 (04.05.2016)  
Knowledge Sharing Meetings-06**

## **ABET 2016 Symposium NOTES-1 and «Program Assessment»**

**«FINAL NOTES on Criterion 03, 02, 04: SOs, PEOs, CI»**  
ITU, ABET EAC Re-Accreditation / Getting Ready for the Next Cycle (2016-2017)

ITU-AKUK and ITU-ODoS

## **Content / Gündem Detayı**

4

### **1. 2016 ABET Symposium NOTES-1**

#### **HIGHLIGHTS, MEETING MINUTES, SSR NOTES**

- » 2016 ABET Sempozyumu'ndan Notlar, İzlenimler-1: Öne Çıkan Hususlar, Toplantı Notları, Örnek SSR İnceleme Notları

### **2. PROGRAM ASSESSMENT**

#### **FINAL NOTES on Criterion 03, 02, 04: SOs, PEOs, CI**

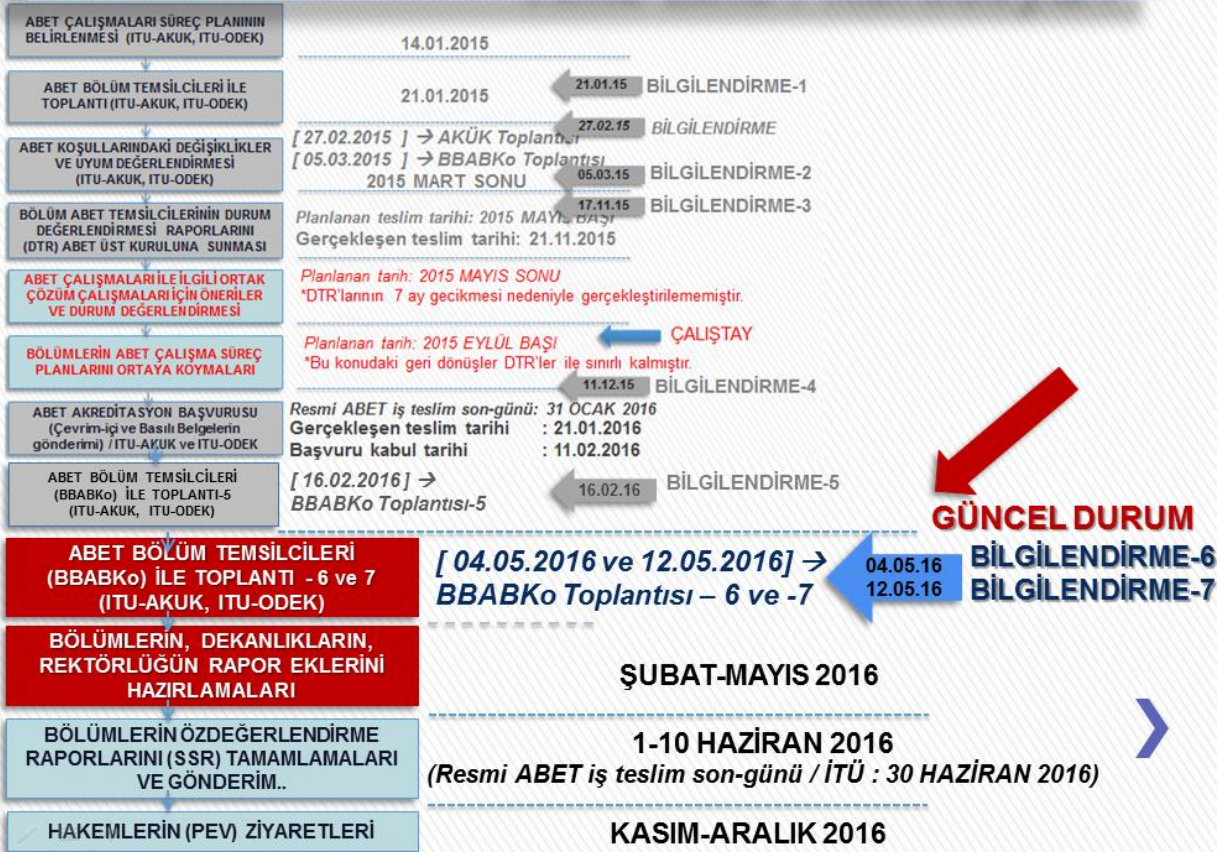
- » Program Ölçme Unsurları ve Süreçleri: Kriter 03, 02, 04: SOs (Öğrenci Çıktıları), PEOs (Program Eğitsel Hedefleri), CI (Sürekli İyileşme) üzerine SON NOTLAR / HATIRLATMALAR





## Time Line / Neredeyiz?

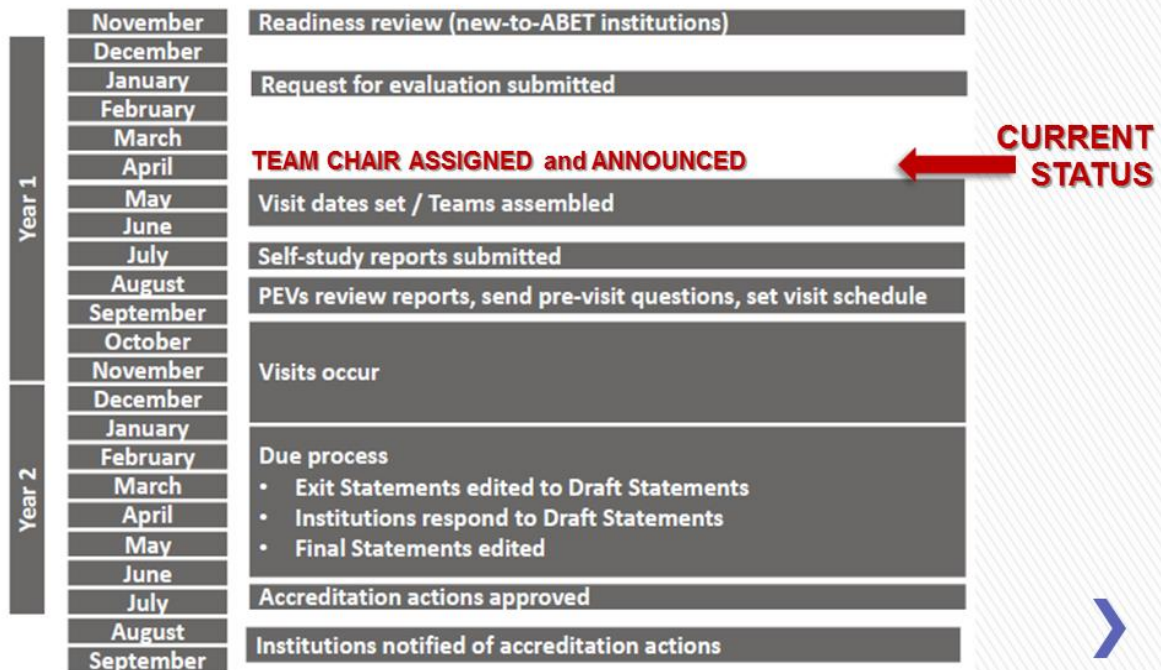
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**GÜNCEL DURUM**

## Accreditation Schedule

3



**CURRENT STATUS**

ITU ODEK / ODoS  
Istanbul Technical University – Office of Dean of Students

**2016 ABET SYMPOSIUM**  
**and**  
**“Fundamentals of Program Assessment” Workshop**

***13-16 April 2016, Miami, Florida, USA***

*Organized by ABET*

**REPORT**  
**HIGHLIGHTS, MEETING MINUTES, SSR NOTES**

***TOPLANTI / ÇALIŞMA ZİYARETİ RAPORU***

***Assoc. Prof Ebru DÜLEKGÜRGEN***

***ITU ODEK / ODoS – Associate Dean***

***Educational Quality and Accreditation***

***ITU Delegate at 2016 ABET Symp***

May 2016

**2016 ABET Symposium + Fundamentals of Program Assessment Workshop**  
13-16 April 2016, Miami, FL, USA

**REPORT**

## EVENT TIME and PLACE

**DATE** → ABET 2016 SYMPOSIUM → 14 – 15 April 2016

*Pre-Symp Workshop: Fundamentals of Program Assessment* → 13 April 2016

*Post-Symp Workshop: Using Project Management to Create SSR & Prep for Visit* → 16.04.16

*Self-Study Report Rooms: Sample SSRs in display* → 13 – 16 April 2016

**PLACE** → Hollywood (Miami), FL, USA

## EVENT in NUMBERS

### TOTAL number of

**Attendees** : 750 (mostly: USA, some: South America, EU, Far East, Middle East, Africa)

### From TURKEY :

*ITU Delegates* → Prof Hanefi ÇOPUR, Assoc. Prof Burak ÖZKAL, Assoc. Prof Ebru DÜLEKGÜRGEN

*MUDEK* → Prof Arif Bülent OZGÜLER

**Plenary Talks** : 6

*Francisco Marmolejo, Doug Melton, Marc Edwards, Arvind Thiruvengadam, Steve Cramer, Joe Palca*

**Invited Talks** : 23

**Educational Tracks** : 4

*Global Accred., Best Practices in Program Assess., Disruption& Innov. in Tech Edu, APP&Personnel*

**Parallel Sessions** : 8

**Presentations** : 48+46 = 94

**Discussion Dens** : 4+2 = 6

**Workshops** : 2+6 = 8

## ABOUT the EVENT

*“Throughout the world, cities, regions and entire nations increasingly view universities and colleges as tools of competitive advantage. More and more, higher education institutions are expected to leverage teaching, technical assistance and breakthrough research to address a wide range of compelling technical, social and economic needs. In a sense it is easy to see why, as technical programs are uniquely positioned to lead university response to many of these pressing issues.*

*As the premier event in quality assurance and innovations in technical education worldwide, the Symposium brings together hundreds of leaders in industry, academia, and government. Its goal is to promote peer-to-peer and expert interaction around continuous quality improvement and ABET accreditation. During the ABET Symposium, hundreds of academics and practitioners come together to discuss the impact of their work on the professionals of tomorrow and how technical education can start building a better world today.*

*The program consists of presentations from invited speakers and those selected through an open call for abstracts.” ABET2016*

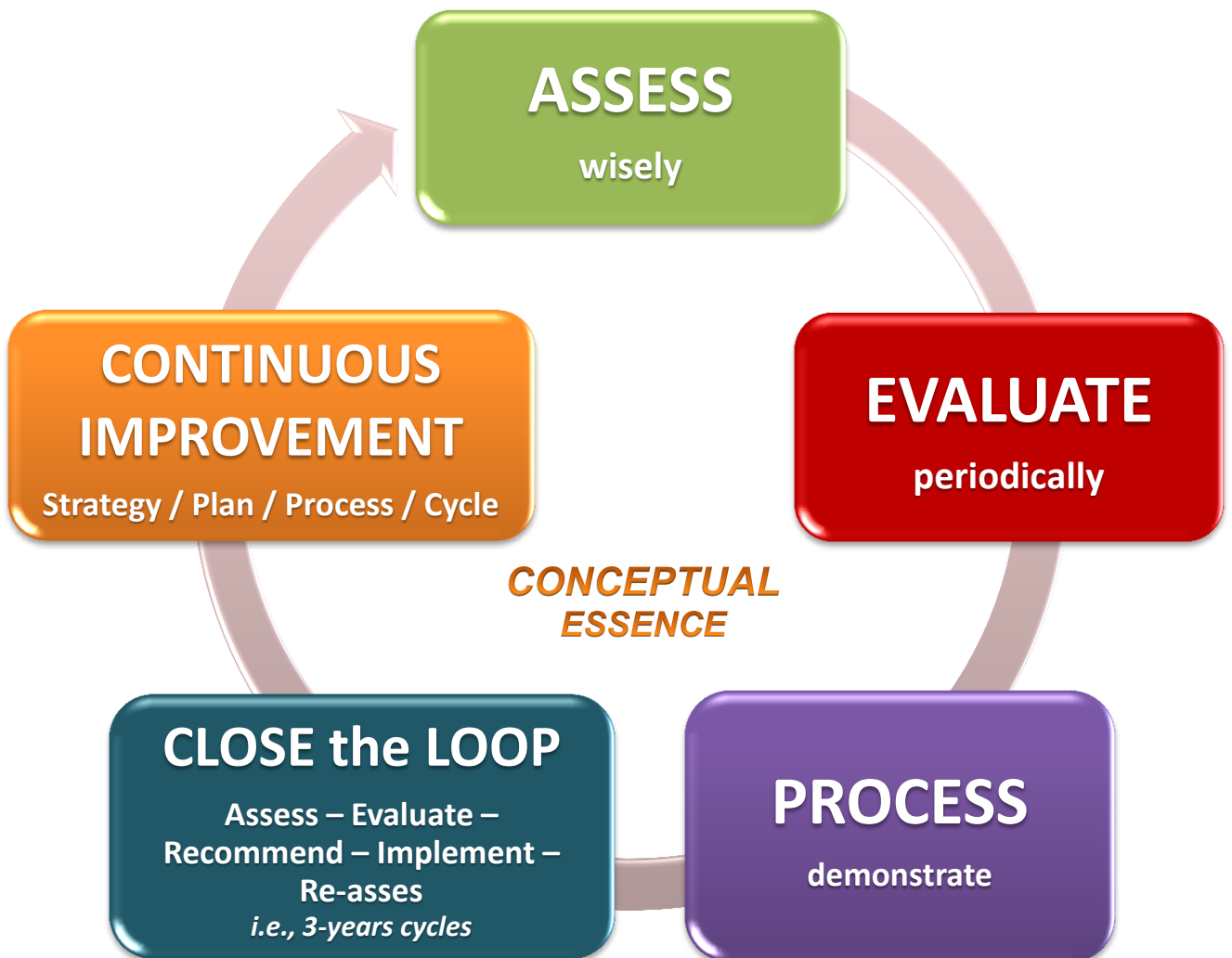
## EVENT's PROGRAM / SCHEDULE

[< Workshops & Events / ABET Symposium / SCHEDULE AT-A-GLANCE](#)

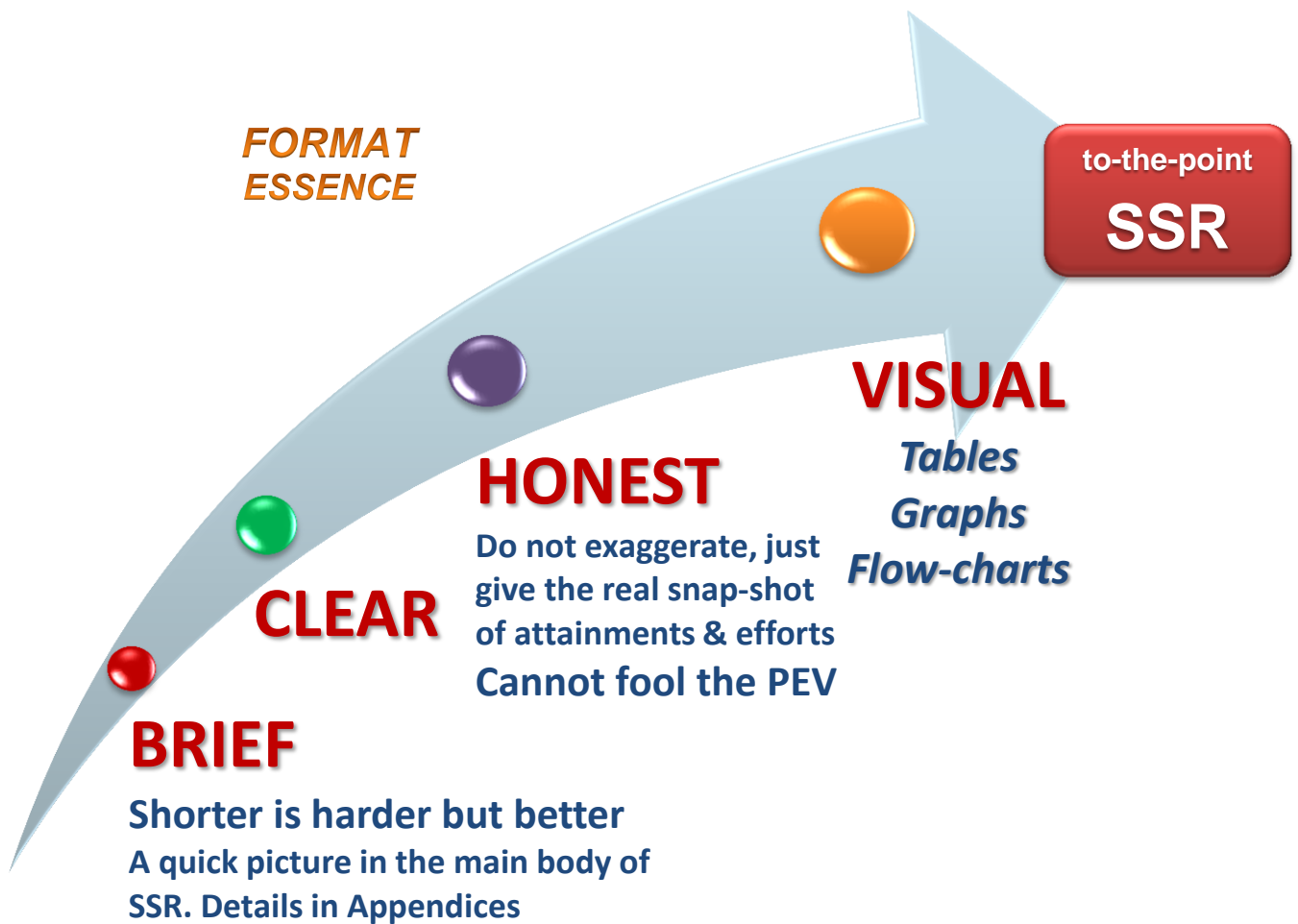
<http://www.abet.org/workshops-and-events/abet-symposium/>

**Full Schedule is available at** → [NINOVA ABET dersi](#) → [Ders Kaynaklari](#) → [ABET\\_SymposiaDocs](#) → [00\\_2016\\_ABETSymposium\\_SCHEDULE\\_160316.pdf](#)

**SYNOPSIS-1**  
**CONCEPT / CONTENT**



**SYNOPSIS-2**  
**FORMAT**





# **HIGHLIGHTS of**

# **INVITED SPEECHES / PRESENTATIONS**

*full PPP (pdfs) of those are uploaded to*

***NINOVA-ABET***

***ABET\_SymposiaDocs***

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14.04.2016 / Thursday

I. Morning Plenary-1 → Francisco Marmolejo (Tertiary Edu Coord., World Bank)

II. Morning Session-1 → KEYNOTE-1:

**“DEMONSTRATING COMPLIANCE with CRITERION 4 (CONTINUOUS IMPROVEMENT):  
ASSESSMENT AND EVALUATION”**

by Joe TURNER (Prof Emeritus, Clemson Univ.) → HIGHLIGHTS

**“NO MORE ASSESSMENT of ATTAINMENT of PEO” for certain**

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- If you want to → still OK but NOT REQUIRED anymore
- If the PEO (Program Educational Objectives) have been assessed and evaluated (which is optional now), it should be documented NOT under Criterion 4-CI, BUT somewhere else in the report or appendices.

**In Criterion 4** → main thing is to

**DEFINITELY to SHOW**  
**the CONTINUOUS IMPROVEMENT (CI) in**  
**ATTAINMENT of STUDENT OUTCOMES (SO)**

**Slide15** → Where to put the EVIDENCE for CI (of attainment of SO)?

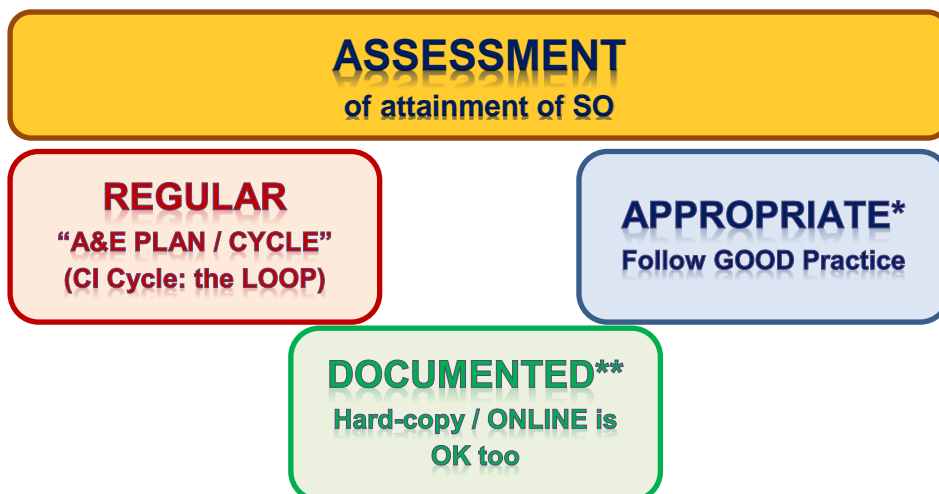
1. **SSR** → Show the **CI-CYCLE and ASSESSMENT PLAN** → including A&E (assessment and evaluation) plan of attainment of SO regularly: matrix schedule (frequency), tools, responsible bodies, decision takers, action, etc.
2. **On-site VISIT** → **DISPLAY MATERIAL** → Course Portfolio  
→ OUTCOME Portfolio  
→ Minutes from meetings, etc.

**Slide19** → What in DISPLAY MATERIAL?

**Who runs A&E** of SO?

**What happens** to the A&E **results?** → reported to a committee? to the Head of Department?

**What happens next?**



\*Note-1: Good Practice → Using rubrics, surveys, etc. (formative, SUMMATIVE, PI-specific). Bad Practice: using grades.

\*\*Note-2: Documentation → nice to have a CI-Plan available to a range of audience who would be able to PROCESS the info → experts, admins, etc.



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Q&A → **POOL COURSES** taken by students from multiple undergrad programs (UP) → For SO assessment → **SEPARATE** the DATA based on individual UPs.

Q&A → Even if the level of attainment for SO are **BELOW** threshold → **NO** problem as long as those are **ADDRESSED** by **CI-STRATEGY**

### CI-STRATEGY

**A&E** on a **REGULAR** basis →

**DECISION** making: **ACTION** decision (**evidence**: minutes of Curriculum Committee) →

**IMPLEMENT CHANGES** →

**RE-EVALUATE** next round →

**Getting better?**

### CI-INPUTS

**SO A&E results** → **MUST**

Any other info from other sources → **OPTIONAL** (would be **NICE** though)

### CI in SSR (Criterion 4)

**Just** PUT the **CI PLAN** in the **MAIN text-body of SSR** → **max 2-3 pages** for just a quick picture

Detailed **A&E and CI DATA / RESULTS** should be in the **APPENDICES**

→ **DATA (raw and summarized)**

→ **RESULTS**

→ **RUBRICS**

→ **SURVEY TEMPLATES**

**FOCUS on LAST COMPLETED A&E + CI CYCLE**

*(no need to include data from previous or ongoing cycles)*

Q&A → **SO A&E based on PI-specific assessment?**

**NOT a MUST** but an **EFFECTIVE** way of A&E → **Good Practice** → **RECOMMENDED**

### Display Material

Have a **SEPARATE SO BINDER** for each **SO**

(in addition to the **COURSE BINDERS**)

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14.04.2016 / Thursday

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III. Morning Session-1 → KEYNOTE-2:

**“PREPARING the SSR for ENGINEERING”**

by Jeff FERGUS (Assoc. Dean for Prog Assessment and Grad Studies, Auburn Univ.)

**→ HIGHLIGHTS**

**The BLACK Presentation-2016** → [PS by EbruD → this talk and presentation is the **UPDATED-2016** version of the **BLACK Presentation-2015**: 2015 version of this presentation was uploaded to **NINOVA-ABET Course** and introduced to the **ITU-BBABKo members** in the **5th INFO Meetings run by ODoS in February 2016 - “05\_2016\_ABET\_BBABKo\_Toplant05\_CriticalHighlights\_PPP\_ver02\_160216”]**

**→ Additional HIGHLIGHTS**

**“NO MORE ASSESSMENT of ATTAINMENT of PEO” for certain**

- The advice to stop trying to assess the attainment of PEO thru graduates came 1.5 years ago (late 2014) from the Academic Advisory Board of ABET → due to limitations in sampling (hard to reach the graduates and assess the attainment of PEO)

**NO ASSESSMENT** of attainment of **PEO** thru graduates  
**BUT REVIEW** (evaluation) of **PEO**  
by **CHECKING** them if fitting  
**INSTITUTION'S MISSION** (Mission of **UNIV, FACULTY, and DEPARTMENT: ALL THREE**)  
**NEEDS** of the **program CONSTITUENCIES**

- On-site Visit Teams → 1 Team Leader + 4-5 PEV (Program Evaluator)
- Team Leaders → to be determined by early May 2016  
→ [Team leader and co-chair for 2016-2017 ITU visit has been determined as of 26.04.2016]
- Team members (PEVs) → 1 PEV (Program Evaluator) / UP → after determination of Team Leaders; to be suggested by professional societies (USA)
  - “UP contacts (BBABKo) have the right to say “we have conflict with that PEV/team leader...please change our PEV/TLeader”

**Slide26/27** → **STUDENT ADVISING in the SSR**

- Advising on **ACADEMIC** matters
- Advising on **CARRIER** development

**What** is the **PROCESS** of student advising?

**Who** is **RESPONSIBLE** from which part of advising?

**How** does the **process run**?

**HEADS-UP** → during the on-site visit, the **PEV TALKS** to the **STUDENTS** and asks about how they get advice on academic matters, carrier development

**What** is written in the **SSR** needs to be **CONSISTENT** with what the **STUDENTS tell** to the PEV  
→ **BE CLEAR, DO NOT EXAGGERATE**

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**Q&A (by EbruD) → At the beginning of the SSR → addressing the “concerns, weaknesses left from the Final Statement of the previous accreditation cycle”?**

**Answer →**

**UPs with UNRESOLVED (or NOT ADDRESSED) Concerns/Weaknesses in the previous Final Statement**

- ✓ State the “weakness/concern” given by ABET clearly (copy/paste from the previous Final Statement)  
**AND**
- ✓ Explain in **DETAILS** the “**PROCESS** run, **CHANGES** done, **MEASURES** taken to **RESOLVE / IMPROVE**”

**UPs with extra 1 year work and with INTERIM REPORTS and with EVERYTHING RESOLVED in their Final Statements (total of 6 ITU UP)**

- ✓ **NO NEED** to talk about the “concerns, weaknesses” given before the final statement **OR** the changes made and reported to ABET with the interim report
- ✓ Might state shortly “*no concerns, weaknesses, etc. remaining from the previous cycle*”

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**14.04.2016 / Thursday**

**IV. Afternoon Session-1 → Presentation-1:**

**“STANDARDIZED, STREAMLINED ASSESSMENT REPORTING using PERFORMANCE VECTORS and FACULTY COURSE ASSESSMENT REPORTS”**

**by John ESTELL (Prof, Ohio Northern Univ. + ABER CAC Commissioner)**

**→ HIGHLIGHTS**

- **GRADES → AGGREGATIVE** → Sum of all performance of students throughout the semester  
→ need to be broken down to pieces addressing individual SO-related performance indicators
- **SCORES → FORMATIVE** assessment of AN ASSIGNMENT; ex., Quiz-1 score
- **PERFORMANCE VECTORS (PV)** → the 4-range measures:

**UNSATISFACTORY (U) / MINIMAL (M) / SATISFACTORY (S) / EXCELLENT (E)**

An example on HOW to CONVERT SCORES to PVs

<b>SCORE</b> (nominal range) from a particular assignment	<b>PV</b> – Performance Vector
100 – 90%	<b>E - EXCELLENT</b>
90 – 75%	<b>S - SATISFACTORY</b>
75 – 60%	<b>M - MINIMAL</b>
60 – 0%	<b>U - UNSATISFACTORY</b>

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**V. Afternoon Session-2 → Presentation-2:**

**“INDUSTRIAL INVOLVEMENT in TECHNICAL PROGRAMS: a GLOBAL CONTEXT”**

**by Borko FURHT, Ivan ESPARRAGOZA, Lueny MORELL**

**→ HIGHLIGHTS**

**Borko FURHT** → Prof, Dept of Electrical and Computer Engr and Computer Sci, Florida Atlantic Univ, Boca Raton, FL, USA

**“SELL the SUCCESS STORY to the INDUSTRY**  
to get **FUNDING** and **INVOLVEMENT** with the university and students and technical education”

→ Success story → **what** would be the **advantages for the industry** if it gets **involved with the Higher Edu?**

**Lueny MORELL** → Founder and Director of InnoVaHiEd

**“a NEW BREED of ENGINEERS”**  
**“LOCALLY RELEVANT, GLOBALLY COMPETENT ENGINEER”**

**Slide36** → [\[PS by EbruD\]](#) → check the web-site → [www.ioncudos.com](http://www.ioncudos.com) → **Outcomes Based Education platform**

**Slide55** → [\[PS by EbruD\]](#) → joint work with IGIP (EU)

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**15.04.2016 / Friday**

**I. Morning Session-1 → “PREPARING INDUSTRY-READY GRADUATES using LEARNING ANALYTICS TOOL & ABET Guidelines”**

**ASSESSMENT DATA MANAGEMENT TOOL** → **INPODS**



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15.04.2016 / Friday

II. Afternoon Session-3 → GET TOGETHER of the Engineering Accreditation Commission

## **“EAC TOWNHALL”**

### **Questions - Answers, Final Notes Session**

#### **1. Revisions in STUDENT OUTCOMES**

**Question → Proposed changes in Student Outcomes → when to implement?**

**Answer →**

### **DO NOT CHANGE ANYTHING NOW (2016)**

**CONTINUE w/ the CURRENT STUDENT OUTCOMES (a to k, 11 SO)**

#### **Reasoning for revision of SO →**

The current SO (a to k, 11 SO) were determined at the beginning of 2000's (EC2000) and have been in use for more than 16 years now. Things are changing in the world, demands/needs of the global society and the industry are evolving towards a new multi-directions/dimensions → hence, time to adjust the SO accordingly to meet the needs of the rapidly changing world of ours.

#### **Implementation Schedule →**

Proposed changes in SO are **remain** as “**proposed**” for **2016-2017 Cycle and 2016 Fall visits**.

Proposed revisions are still open for readings and suggestions from all constituents, incl. accredited programs (April 2016, and till summer 2016).

Then the ABET EAC will come together and discuss the suggestions for the revisions one-round.

If to change anything in the revisions based on suggestions, then it will take another round of announcement of the revisions, reading time, suggestions from the constituents the 2<sup>nd</sup> round before ABET EAC and other relevant parties decide on the final version of the proposed changes.

Also, even if when the proposed revisions are **finalized (in approx. 1-2 years; approx. in 2018)**, there will be a “**TRANSITION PERIOD (of approx. 2 years)**” during which the **programs** will have the chance of **choosing** either to **go with the “a to k, 11 SO” OR** with the **revised new SO**.

#### **2. STUDENT OUTCOME attainment results BELOW THRESHOLDS**

**Question → What if the levels of attainment for PIs or SO's are BELOW the THRESHOLD?**

**Answer →**

**NO PROBLEM as long as**  
**those are ADDRESSES in the CI-STRATEGY**

**ABET is NOT there to MEASURE and JUDGE the PRECISION of SO attainment**

**ABET is INTERESTED in if you are**  
**AWARE of the problem and**  
**TAKE ACTION to**  
**SOLVE the PROBLEM**

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### 3. DISPLAY MATERIAL (during On-Site Visit)

#### 2 SEPARATE SETS of Display Materials

Binders for Criterion-5 → CP, Syllabi, CVs, etc.

Binders for Criterion-4 → SO A&E data and results, CI plan, data, results, etc.

### 4. CONTACT with TEAM CHAIR and PEV (before On-Site Visit)

#### GET IN TOUCH

with the **Team Chair (Univ Admin)** and **PEV (Program Representatives)**  
as soon as they are assigned by ABET  
AND  
**as soon as the SSR's are sent to ABET (30 June 2016)**

### 5. TRANSCRIPTS to the PEV

#### EXPLAIN: CLEARLY and in DETAILS

anything strange or unusual to the PEV

PEVs will ask from the UP representatives for couple of transcripts of randomly selected student to be sent to them via e-mail (random selection to be done by PEVs). When sending the required transcripts;

- **Include** a **DETAILED EXPLANATION** on **HOW to MAKE SENSE of the transcripts** → ex., “**graduation requirements**”, “**transfer credits**”, etc. Anything **UNUSUAL** or **STRANGE** to the PEV should be described **CLEARLY**
- **Demonstrate** that you have a **PROCESS** for structuring the student transcripts and that **you're following that process**.

# SELF STUDY REPORTS ROOM

## EAC

### NOTES from ABET on SSR Room, 2016 ABET Symposium, FL, USA

"Throughout the 2016 ABET Symposium you get access to Self-Study Reports that have been chosen by ABET evaluators from the 2015-2016 program reviews.

We **select** Self-Studies that:

- Follow the Self-Study Questionnaire Guidelines
- Address each criterion
- Avoid extraneous information
- Effectively use graphs, tables, and charts
- Leverage appendices

The **chosen** Self-Study Reports **are not necessarily examples of programs that are in full compliance with ABET Criteria.**

They are meant to be **examples of well-crafted** Self-Study Report documents.

[PS by EbruD] → The full list of the SSR's in display (EAC, 4-years BSc) can be found at:

<http://symposium.abet.org/2016-self-study-report-room/>

**FORMAT-wise EXAMPLES**  
*Not necessarily approved content*

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**NOTES on SSR in display**  
**Civil Engineering – Notre Dame University – Louaize (2015)**  
**Zouk Mosbeh, Lebanon**

**ABBREVIATION List**

[IPS by EbruD](#) → Include an ABBREVIATION List, esp. for the terms not familiar to ABET

**CRITERION-1**

**A. Admissions**

- Annual admission numbers
- Student admission process and responsible bodies
- Foreign students
- Minimum admission requirements
- Enrollment data (# of students enrolled) in the past years, ex. last 7 years.

**B. Evaluation of Student Performance**

- Student assignment types in overall (using cumulative results of) → quizzes, homework assignments, lab assignments, projects, midterms, final exam, etc.
- **TABLE for GRADES** → in 100, in Letters, in 4.0-system → which one corresponds to what?

**Rules, procedure, and explanation of;**

- “Good Academic Standing” students → normal students
- “Academic Probation” → students in probation (gözetim) list
- “Academic Suspension”
- “Dismissal”
- “Recognition” → honor list

**C. Transfer Credits**

- Short info → in main text
- Detailed policy → in Appendices
  - Eligibility
  - Transfer Credit Evaluation
  - Procedures and Deadlines (schedule/academic calendar)

**FORMAT-wise EXAMPLE**  
*Not necessarily approved content*



## CRITERION-2 → PEOs

### A. Mission

- of University
- of Faculty
- of Department

**ALL THREE given together with their URL's**

### PEO's of Civil Engr UP of NDU

**PEO-1:** "Apply technical and non-technical skills to design, construct, and manage sustainable projects"

**PEO-2:** "Exhibit ethical and professional commitments to the community and the environment"

**PEO-3:** "Pursue a life-long learning, such as graduate work and continuing education"

**PEO-4:** "Become leaders who demonstrate strong communication, multi-disciplinary team-work, and management skills in their chosen profession"

### E. PROCESS for REVIEW of PEOs

The Review Process, the PLAN is shown here in the main text, rest is given in Appendices.

#### Periodic Review of PEOs to check if fitting;

- **Institution's Mission**
- **Needs of Program Constituents**
- Additional interesting inputs
  - **PEOs vs "ASCE Vision 2025"** (ASCE: American Society of Civil Engineers)
  - **PEOs vs "Forum for the Future 2000, UNESCO, 2010"** document

#### Review of PEOs in numbers → "REVIEW CRITERION for PEO"

**"A PEO will be considered to require NO revision if more than 70% of the ALUMNI or EMPLOYERS rate that PEO at more than or equal to 3.0 out of 4.0 scale.**

1<sup>st</sup> Review → done in Spring 2014 → Alumni Survey

2<sup>nd</sup> Review → done in Spring 2015 → Employer Survey

**NOTE** → Survey **Questions** for PEO Review **AND RESULTS** are given in an **APPENDIX**  
→ summarized in **TABLES** + **GRAPHS**

[PS by EbruD] →

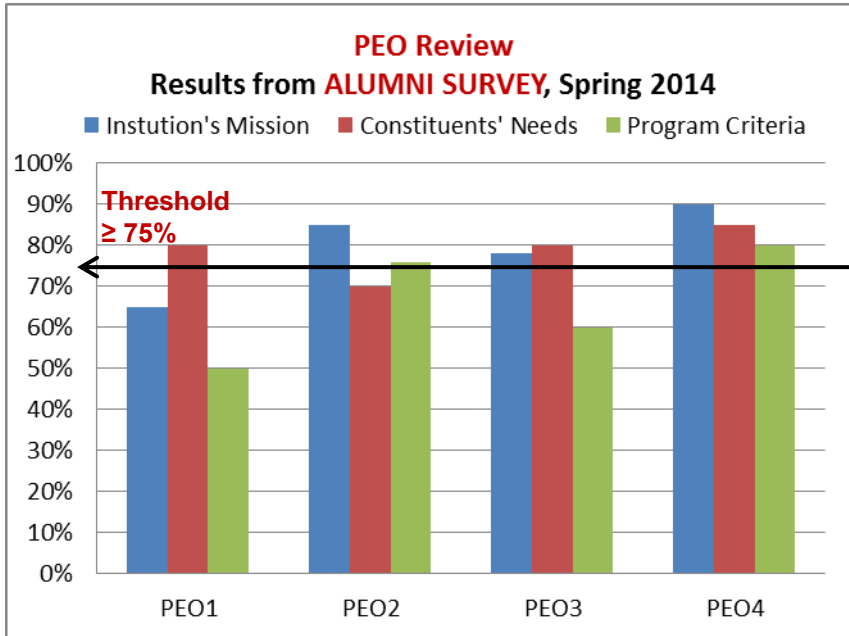
See the next page for **some examples** for Results of **PEO Review** given in Appendix.

**FORMAT-wise EXAMPLE**

*Not necessarily approved content*

Some **EXAMPLES** for **HOW** to **DISPLAY** the **RESULTS** of **PEO REVIEW** given in **APPENDIX**.

1. **TABLE + GRAPH** from results of **ALUMNI** Survey



**PEOs matching w/ Institution's Mission**

**PEOs matching w/ Constituents' Needs**

**PEOs matching w/ Program Criteria**

[PS by EbruD] → numbers in the graph given above: not real but generated by EbruD, just for visualization

2. Similar **TABLE + GRAPH** from results of **STUDENTS** Survey

3. Similar **TABLE + GRAPH** from results of **EMPLOYER** Survey

**In the EMPLOYERS Survey**

→ free space available for **ADDITIONAL COMMENTS** from the employers

→ free space available for → **"Please DEFINE**

- **WEAKNESSES** of our **GRADUATES** in meeting **YOUR** workforce **NEEDS**
- **STRENGTHS** of our **GRADUATES** in meeting **YOUR** workforce **NEEDS**

**NEXT APPENDIX →**

Details of the **EXTERNAL ADVISORY COMMITTEE**

→ **composition, roles, meeting & review calendar, etc.**

**FORMAT-wise EXAMPLE**  
Not necessarily approved content

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**CRITERION-3 → SOs**

**A. Student Outcomes**

**a to k LIST** → 11 Student Outcomes set by ABET EAC + any additional SO put by the UP

**B. SO vs PEO**

Written in the main body + **MATRIX**

**TABLE-1 → SO vs PEO matrix**

	SO1	SO2	SO3	SO4	SO5	SO6	SO7	SO8	SO9	SO10	SO11
PEO1	X	X	X	X	X		X	X			X
PEO2			X			X					
PEO3									X	X	
PEO4				X			X				

**TABLE-2 → PI BREAKDOWN for SO**

SO#	PI#	Performance Indicator – PI (in short)
SO1	PI-1	.....
	PI-2	.....
	PI-3	.....
SO2	PI-1	.....
	PI-2	.....
SO3	.....	.....
	.....	.....
....	.....	.....

***NO A&E of SO Results here!!!***

***RESULTS are given in the APPENDIX***

**FORMAT-wise EXAMPLE**  
*Not necessarily approved content*

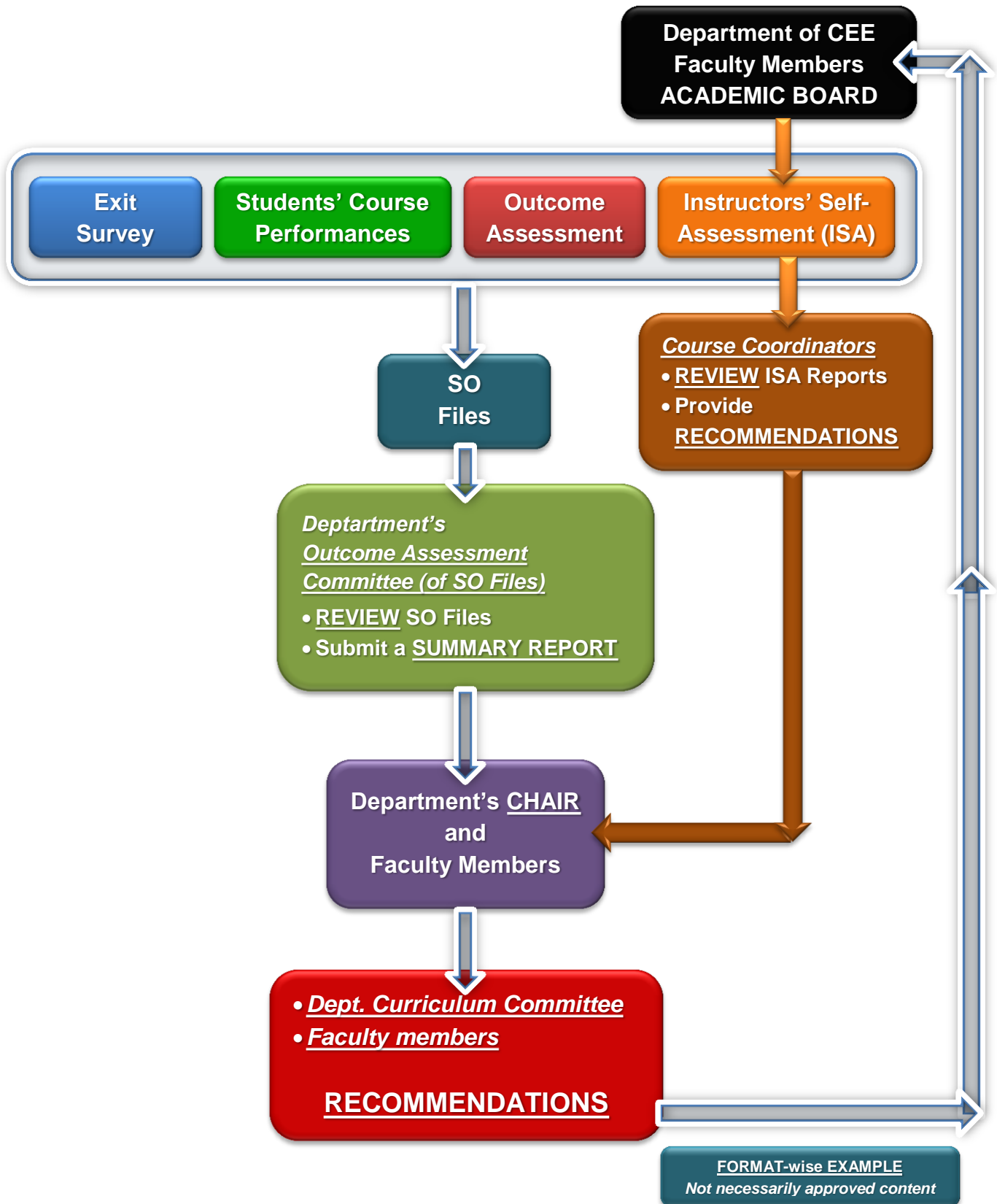
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**CRITERION-4 → CI**

**A. STUDENT OUTCOMES – A&E&R&I&Re-A&E LOOP**

[PS by EbruD: Assess → Evaluate → Recommend → Implement → Re-assess and evaluate]

**FLOWCHART of A&E PROCESS for attainment of SOs**





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**A.1. DIRECT SO Assessment**

**CURRICULUM MAPPING for SOs**

**SO vs Courses Matrix + the elements of the PROCESS**

Schedule (assessment frequency and dates)

SO	Strategy	Tools	Fall 2011	Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014	Fall 2014
a-.....	Course Codes CEE213	Exam Qs, Rubrics, Assess. Reports, Projects	A				R		
b-.....	.....	.....		A				R	
c-.....	.....	.....							
d-.....	.....	.....	A				R		
	.....	.....							
	.....	.....							
k-.....	CEE493	Design project, tech drawings, rubrics		A			R		

A → INITIAL assessment

R → RE-assessment

**SO Assessment in numbers → “attainment CRITERION for SO”**

*“An SO is considered to have been attained if*

- (i) **70% or more students score 70% or better on all questions related to an SO, when using “COURSE REPORTING FORM” and**
- (ii) **a score of 2.8 (out of 4.0, equiv. to 70%) or better on each PI when using RUBRIC”**

**ONLY 1 i.e., Rubric-Based SO A&E Result here, as an example!!!**

**DETAILS of all SO A&E RESULTS are given in the APPENDIX**

**FORMAT-wise EXAMPLE**  
*Not necessarily approved content*

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**A.2. End-of-semester Student Evaluation SURVEY**

**SO Assessment in numbers → “attainment CRITERION for SO”**

**“An SO is considered to have been attained if 70% or more of surveyed students rank the SO achievement at a level equal to or more than 3.0 (out of 4.0)”**

**A.3. Exit SURVEY**

Criterion → Same as above

**A.4. Instructors’ Self-Assessment (ISA)**

CLO mapped to related SO → CLO vs SO table and CLO Assessment PROCESS

**Course Learning Outcomes (CLO) Assessment TABLE**

CLO #	Related SO	Assessment Method	Question#	% of students w/ a grade C	Rating
1-.....	a, e	Exam-1	Q2, Q5, Q8.a	63%	2
2-.....	a	Exam-1	.....	57%	1
3-.....	a	Exam-1 and 2	.....	73%	3
4-.....	c, e	Exam2 and Final	.....	.....	1
5-.....	a	.....	.....	.....	1

**SO Assessment in numbers → “attainment CRITERION for SO”**

**“An SO is considered to have been attained if 70% or more of students score 70/100 (equivalent to 2.8/4.0) or better on all the target questions related to a specific SO”**

**CLO Assessment PROCESS**

**CLO vs SO + Info +Assessment Results MATRIX**

- **PREPARED** by the **INSTRUCTOR**
- **REPORTED** to the Course **COORDINATOR**
- **RECOMMENDATIONS**  
(**COURSE** level OR if needed **PROGRAM** level recommendations)

**Takes Course Level Action**

1. Suggests recommendations to the **Outcome Assessment Committee**
2. **Review** of the recommendation by the **Dept. Curriculum Committee**
3. **Final DECISION**
4. **Sends** recommendation (if needed) to the **Dept. Committees and Head of Dept.**

**FORMAT-wise EXAMPLE**  
Not necessarily approved content

**A.5. Summary and Analysis of the SO A&E Process**

**\*For each SO → 1 Summarizing GRAPH  
OVERALL (using ALL TOOLS) and PI-SPECIFIC  
(preferentially from consecutive assessment years)  
A&E RESULT GRAPHS here!!!**

DETAILS of all SO A&E RESULTS are given in the APPENDIX

OR

**JUST 1 EXAMPLE GRAPH for 1 SO here, and all the others in the Appendix.**

**\*[PS by EbruD] →**

*The format and content of this particular section was discussed with an EAC PEV attending to the Symposium:*

*The PEV stated that she personally prefers to see ALL 11 graphs for overall SO A&E altogether here in the main text body (JUST 1 SUMMARIZING GRAPH per SO) to have a quick picture and an overall grasp of Program Assessment in overall and the levels of attainment of all SOs;*

*and then prefers to look at the Appendix for details when she needs.*

[PS by EbruD] →

See next pages for **some examples** of "**REMEDIAL ACTIONS**" after SO A&E **given in Appendix.**

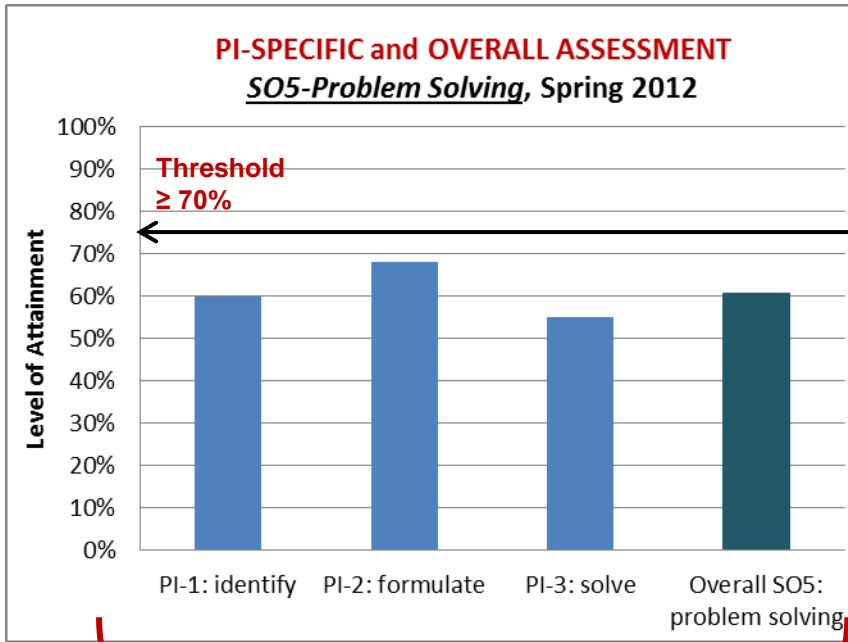
**FORMAT-wise EXAMPLE**  
*Not necessarily approved content*

## REMEDIAL ACTION (PLAN) examples (in APPENDIX)

**Assess → Evaluate → RECOMMEND → IMPLEMENT → RE-ASSESS**

**Example-1** → low attainment of PIs of “SO5-problem solving”: recommendations & implementation

### 1. Assess and Evaluate



**FORMAT-wise EXAMPLE**  
Not necessarily approved content

**ALL BELOW 70 % (THRESHOLD) → TAKE REMEDIAL ACTION**

### 2. RECOMMENDATIONS

**R-1** → “**Courses mapped to SO5** should include more class time devoted to “problem solving” exercises. The exercise should include steps to identify (PI-1) and formulate (PI-2) problems, as well as solving them (PI-3)”

**R-2** → “**Courses mapped to SO5** should include lab and site-visits so that students have opportunities to link theory and practice and improve their problem identification skills”

### 3. IMPLEMENTATION

“**Recommendations** / changes / suggestion for revisions **were implemented** in Fall 2013 (the year following the A&E of SO5), and the students were **re-assessed** in Spring 2014 (**2<sup>nd</sup> round of assessment, CLOSING the LOOP**)”

### 4. RE-ASSESSMENT and EVALUATION

→ **FOLLOWING the IMPACT of implemented CHANGES**

“**Results after Re-A&E** → **IMPROVEMENT** in ALL PIs, as well as in SO5 in overall → increased from 37% in 2013, to 65% in 2014”

**Example-2** → low attainment of PIs of “SO2-design&conduct experiments”: recommendations

SO-2: “An ability to design and conduct experiments, as well as to analyze and interpret data”

## RECOMMENDATIONS

**R-1** → “Lab instructors should incorporate **presentations** on “Designing an Experiment”. Then the **students** should be **tested** on the delivered info”

**R-2** → “Lab instructors should **provide more info** on standards”

**R-3** → “Lab instructors should **provide more detailed, clear, concise instructions** on data collection process”

**R-4** → “Lab instructors should **provide review sessions** on use of **programs** for **lab results reduction** and data analysis”

**R-5** → “Course coordinator **should better explain** the assessment plan to the **instructors** prior to the beginning of the semester”

**Example-3** → PIs of “SO11-use of techniques, skills, and modern engineering tools”:

**Just 2 PIs !!**

**PI-1** → **identify** the necessary techniques, skills, and modern engineering tools

**PI-2** → **apply chosen** techniques, skills, and modern engineering tools



## CRITERION-4 → CI (cont.)

### B. CONTINUOUS IMPROVEMENT – Decisions and Actions

#### B.1. Assessment Procedure and Level of Changes

1. Quantitative **assessment** of SOs
2. Quantitative **assessment** of CLOs

#### CHANGES after REVIEW

##### 1. Program Level- REVISIONS

**Affects:** changes in; Course Catalog Form (CCF), textbook, CLO, name of the course, etc.

**Decision:** requires “**Department’s decision**”. See minutes of meetings of relevant committee; **OAC (Outcome Assessment Committee), DCC (Dept. Curriculum Committee), Dept. Head**

##### 2. Course Level- REVISIONS

**Affects:** changes in; assessment measures-tools, course topics-content w/o affecting CCF, etc.

**Decision:** **course level** recommendation/decision process is **enough** → **Course Coordinator + Instructors** (no need to go thru the review and approval of OAC and DCC)

#### B.2. Summary of Changes Made

1. Course Level (optional)
2. PROGRAM Level- REVISIONS
3. CURRICULUM Level- REVISIONS

### C. ADDITIONAL Info

“will be available during on-site visit”:

- ✓ **COURSE Portfolios**
- ✓ **OUTCOME Binders** → *incl. direct assessment of SO* → **RAW** and **ANALYZED DATA** and **RESULTS**
- ✓ **Exit Survey** → template, → **RAW** and **ANALYZED DATA** and **RESULTS**
- ✓ **MINUTES of MEETINGS** → **OAC, DCC, ACADEMIC BOARD, ADVISORY BOARD**, etc.
- ✓ **Undergrad Student Handbook**

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**CRITERION-5 → CURRICULUM**

**A. Program Curriculum**

**TABLE 5-1**

+

**Program's 4-year curricular PLAN**

+

**Prerequisite FLOW-CHART**

[PS by EbruD → the former corresponds to “Ders Planı” in our case. Both the **plan** and the **flow-chart** → available at [sis.itu.edu.tr](http://sis.itu.edu.tr)]

<b>TABLE 5-1</b> <u>Notes on last rows:</u>		Subject Area (Credit Hours)			
		Math & Basic Sciences	Engineering Topics	General Education	Other
TOTALS-ABET BASIC-LEVEL REQUIREMENTS (hrs)		<b>32</b>	<b>83</b>	<b>27</b>	<b>8</b>
OVERALL TOTAL CREDIT HOURS FOR COMPLETION OF THE PROGRAM (hrs)	<b>150</b>				
PERCENT OF TOTAL		<b>21.33%</b>	<b>55.33%</b>	<b>18%</b>	<b>5.33%</b>
Total must satisfy either credit hours or percentage	Minimum Semester Credit Hours	32	48		
	Minimum Percentage	25%	37.5 %		

- **Cooperative Education** → “8-weeks of summer training in a construction firm in US or international.” [PS by EbruD → we don't have an equivalent application at ITU]

**B. Course Syllabi**

Given in Appendix A

**CRITERION-6 → FACULTY**

**D. Professional Development**

- Attended local and/or international CONFERENCES / SEMINARS / WORKSHOPS
- Participation / presentation in CONFERENCES (referring to Table 8-2)
- Attended THEMATIC COURSES
- FUNDING info for the abovementioned attendances (referring to Table 8-2)

**E. Authority and Responsibility of Faculty**

Department's COMMITTEES list

And other required info

**CRITERION-8 → INSTITUTIONAL SUPPORT**

**E. Support of Faculty Professional Development**

Table 8-2 → Attended conferences, etc. and funding for attendees

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**PROGRAM CRITERIA** → (for Civil Engr.)

**A. CURRICULUM**

**TABLE** →

**PROGRAM** specific **CRITERION** (PsC) vs related **COURSES** (w/ credits, levels, etc)

**CURRICULUM MAPPING for PsC**  
**PsC vs Courses Matrix, incl., 4-year curricular PLAN**

Years / Levels	1 <sup>st</sup> Y - Freshman		2 <sup>nd</sup> - Sophomore		3 <sup>rd</sup> - Junior		4 <sup>th</sup> - Senior	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Terms	1	2	3	4	5	6	7	8
<b>Program specific CRITERION vs Related COURSES</b>								
<b>Math, physics (incl. calculus)</b>	CE105 2 crd.				CE307 4 crd			
.....		CE112 3 crd.	CE201 3 crd.				CE431 4 crd.	
.....			CE241 2 crd.					
.....				CE218 3 crd				
.....							CE431 4 crd.	
.....			CE201 3 crd.					CE442 3 crd.
<b>Project design incl., management and sustainability</b>					CE321 2crd.	CE324 3 crd.		CE496 6 crd.
.....							CE441 3 crd.	

[PS by EbruD] → Table content given above: not real but generated by EbruD, just for visualization

**B. FACULTY**

**TABLE** → Licensure List of Faculty members; incl. place and date and title

**FORMAT-wise EXAMPLE**  
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**NOTES on SSR in display**  
**Environmental Engineering – Tsinghua University (2015)**  
**Beijing, PR China**

[PS by EbruD] → SSR main text → 111 pages

**CRITERION-1**

**B. Evaluating Student Performance**

**TABLE** → GRADES, conversions, system

[PS by EbruD] → Below is the **TABLE** officially valid for ITU  
ITU Senate - Congregation (Date: 04.06.2015, No. 613) Decision  
available from ITU-ODoS:  
[http://www.sis.itu.edu.tr/tr/yonetmelik/intibak\\_not\\_donusum\\_tablosu.pdf](http://www.sis.itu.edu.tr/tr/yonetmelik/intibak_not_donusum_tablosu.pdf)

**Relative Grade Conversion System at ITU (official\*)**

Grade in 4.0-system	Letter Grade	Equivalence in 100-system	Other possible equivalencies		
4.0	AA	94 - 100	Excellent	≥ 3.75	5
3.5	BA	88 - 93	Very Good	3.74 - 3.50	
3.0	BB	77 - 87	Good	3.49 - 3.00	4
2.5	CB	65 - 76	Good Satisfactory	2.99 - 2.50	3
2.0	CC	54 - 64	Satisfactory	2.49 - 2.00	2
1.5	DC	42 - 53	Satisfactory-Pass	1.99 - 1.50	1
1.0	DD	30 - 41	Conditional-Pass	1.49 - 1.00	
	FF	00 - 29	Fail	< 1.00	
**	VF	00 - 29	Fail with no right to take Final exam	< 1.00	

\* ITU Senate - Congregation (Date: 04.06.2015, No. 613) Decision:  
[http://www.sis.itu.edu.tr/tr/yonetmelik/intibak\\_not\\_donusum\\_tablosu.pdf](http://www.sis.itu.edu.tr/tr/yonetmelik/intibak_not_donusum_tablosu.pdf)

\*\*[PS by EbruD] → VF and relevant info are not present in official ITU Senate Congregation Decision (04.06.2015), but present on students' transcripts, thus added by EbruD (02.05.2016)

**FORMAT-wise EXAMPLE**  
Not necessarily approved content

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**C. PEOs vs Missions**

**LIST of PEOs + Comparison TABLE**

PEO #	Program Educational Objective (PEO)
PEO-1	“ ..... ”
PEO-2	“ ..... ”
PEO-3	“ ..... ”
PEO-4	“ ..... ”

MISSION	Statement	PEO#
University	UM-1: “ ..... ”	1, 2
	UM-2: “ ..... ”	3, 4
Faculty	FM-1: “ ..... ”	2, 3
	FM-2: “ ..... ”	1, 4
Department	DM-1: “ ..... ”	1, 2
	DM-2: “ ..... ”	2, 3, 4
	DM-3: “ ..... ”	3, 4

**E. PROCESS for REVIEW of PEOs**

**PROCESS FLOW-CHART**



**SURVEYS with →**

- Graduates
- Alumni
- Employers
- Educational Steering Committee
- Advisory Board

**Other Sources of comparison for compliance →**

University Guidance, ABET Guidance

**FORMAT-wise EXAMPLE**  
Not necessarily approved content



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**CRITERION-4 → CI**

**FLOW-CHART for SO A&E PROCESS**

+

**TABLE for SO A&E PLAN**

SO	Data Source	Metrics	Person in charge	Frequency	Feedback Mechanism
a	ENV103, ENV112, ENV211, ENV322	Peer & Faculty Evaluations (rubrics) Senior Survey	.....	2011 and 2014	<b>Action Decision-1:</b> "Statement"?, which decision body, committee? Date? <b>Implementation:</b> date?, courses? <b>Re-assessment:</b> date?
b	.....	.....	.....	2012 and 2015	.....
...	.....	.....	.....	.....	.....
...	.....	.....	.....	.....	.....
k	.....	.....	.....	2011 and 2014	.....



**SO A&E CYCLE → 3 YEARS**

[PS by EbruD → 3-years A&E cycle → **Two SO A&E LOOPS CLOSED** between 2 ABET visits]

**SO A&E main THRESHOLD → 75%**

**CURRICULUM MAPPING for SOs**

SO vs Courses Matrix + the elements of the PROCESS

**ALL COURSES (compulsory + elective), ALL LEVELS (C, E, A&E)**

Courses	SO1	SO2	SO3	SO4	SO5	SO6	SO7	SO8	SO9	SO10	SO11
ENV103	C		...				...			...	
ENV112	C	C	...	...		...		...	...		
ENV211	E	E			...	...		...			C
ENV322	...	A&E			...		...		...	...	E
.....	A&E	...	...			...					
ENV407				...	...		...			...	E
ENV498		...		...				...	...		A&E

[1] → C → Covered

[2] → E → Emphasized

[3] → A&E → Assessed and Evaluated

**FORMAT-wise EXAMPLE**  
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**PROGRAM CRITERIA** → (for Environ Engr.)

**A. CURRICULUM**

**TABLE** →

**PROGRAM specific CRITERION (PsC) vs related COURSES and course CONTENTS**

**CURRICULUM MAPPING for PsC**

**PsC vs Courses and Content Matrix**

<b>Program CRITERION</b>	<b>COURSES Attaining / Covering the Criterion</b>	<b>Relevant CONTENT in the course</b>
Math, physics (incl. calculus)	ENV112	.....
.....	.....	.....
<i>Risk and uncertainty</i>	<i>CEV495/E</i>	<i>Design Project Feasibility Report: "risk assessment plan", "consideration of uncertainties" sections</i>
.....	.....	.....

**FORMAT-wise EXAMPLE**  
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**NOTES on SSR Discussions w/ an EAC PEV**  
**DRAFT (2016) / Environmental Engineering – ITU**  
*Istanbul, Turkey*

**CRITERION-4 → CI**

- A. STUDENT OUTCOMES**
- B. CONTINUOUS IMPROVEMENT**

**\*[PS by EbruD] →**  
DRAFT A&E Report for SO11 prepared by Ebru DULEKGURGEN (ITU-Environmental Engr UP, SSR-2016) was discussed with an EAC PEV attending to the Symposium:

The PEV stated that she personally prefers to see ALL 11 graphs for overall SO A&E altogether here in the main text body (JUST 1 SUMMARIZING GRAPH per SO) to have a quick picture and an overall grasp of Program Assessment in overall and the levels of attainment of all SOs;

and then prefers to look at the Appendix for details when she needs.

**Other CRITICAL NOTES are given below:**

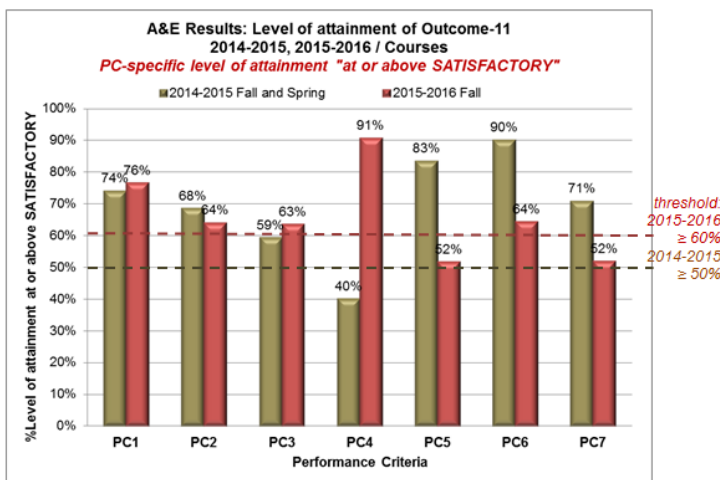
**1. DATA SOURCES for SO A&E**

- Element → Using combo results from RUBRICS + SURVEYS
- Comment → NICE (recommended) but NOT a MUST

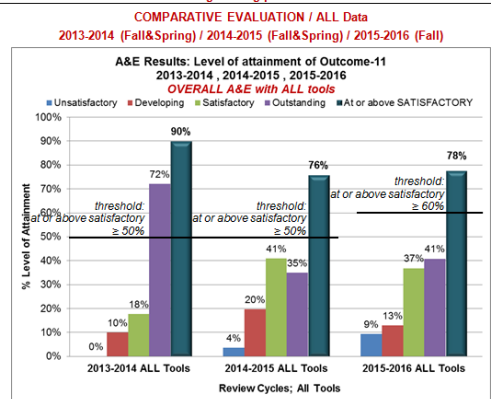
**2. FIGURES → SO A&E w/ PI-BREAKDOWN**

- Element → FIGURE: SO Assessment w/ PI-specific Breakdown + Overall SO attainment
- Comment → Write 1-3 IDENTIFYING / SHORT words for each PI on the graph

OVERALL ASSESSMENT and EVALUATION REPORT → DRAFT ver03 (10.04.2016)  
**COMPARATIVE EVALUATION / PC-specific Data**  
2014-2015 (Fall&Spring) / 2015-2016 (Fall)



OVERALL ASSESSMENT and EVALUATION REPORT → DRAFT ver03 (10.04.2016)  
**STUDENT OUTCOME 11**  
An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice



**FORMAT-wise EXAMPLE**  
Not necessarily approved content

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**3. TABLES → MAPPING for SO A&E w/ PI-BREAKDOWN**

Element → TABLE: DATA SOURCES vs SO Assessment w/ PI-specific Breakdown + Overall SO attainment

- Comment → Write 1-3 IDENTIFYING / SHORT words for each PI in the table  
 → Write 1-3 IDENTIFYING / SHORT words for each COURSE in the table

**4. TABLES → MAPPING for SO A&E w/ PI-BREAKDOWN**

Element → TABLE: Results of w/ PI-specific Assessment: reported both INDIVIDUAL data and AVERAGE of available data from ALL COURSES (at ALL LEVELS)

- Comment → Reporting AVERAGE as well is OK but NOT a MUST  
 → Rather than giving the average from all years;  
 → consider FOCUSING on the SENIOR-YEAR COURSES, and give the AVERAGE of ONLY SENIOR-YEAR COURSES' results (and may be junior year for some SOs),  
 → BUT also HIGHLIGHT the PI-results that are BELOW THRESHOLD and MAKE RECOMMENDATIONS for those  
 → May say, i.e., "PI-2 results → 34-43% in JUNIOR year but then increases to 67-100% in SENIOR year → implying that the students are progressing regarding that specific PI while advancing from junior to senior years. Looks like they are doing fine"

**Performance Criteria (PC)-specific Data**

Courses	2014-2015 Fall and Spring						2014-2015 Fall and Spring
	CEV345E	CEV427	CEV427E	CEV437	CEV437E	CEV328E	At or above SATISFACTORY
PC1	60%	83%	67%	100%	100%	34%	74%
PC2	43%	67%	67%	100%	100%	34%	68%
PC3	47%	17%	0%	100%	100%	92%	59%
PC4	43%	17%	0%			100%	40%
PC5		83%	33%	100%	100%	100%	83%
PC6		83%	67%	100%	100%	100%	90%
PC7	60%	83%	67%			73%	71%

Courses	2015-2016 Fall						2015-2016 Fall
	CEV345E	CEV427	CEV427E	CEV437	CEV437E		At or above SATISFACTORY
PC1	83%	86%	78%	78%	58%		76%
PC2	22%	71%	100%	72%	54%		64%
PC3	57%	29%	67%	84%	82%		63%
PC4	100%	100%	89%	84%	81%		91%
PC5	9%	71%	33%	77%	68%		52%
PC6	100%	43%	33%	77%	69%		64%
PC7	83%	0%	33%	82%	61%		52%

3  
 Evaluator: Assoc. Prof Ebru DULEKGURGEN  
 Data Compilation: Assoc. Prof Ebru DULEKGURGEN, TA Meltem AGTAŞ, TA Hüseyin GUVEN