Bölüm Başkanları ve
Bölüm ABET Koordinatörleri

Bilgilendirme Toplantısı-05 (16.02.2016)

Critical Highlights for 2016-2017 Review Cycle

ITU, ABET EAC Re-Accreditation / Getting Ready for the Next Cycle (2016-2017)

ITU-AKUK and ITU-ODoS

RFE Submission / APPROVAL→ 21.01.16 / 11.02.16

2016-2017 Request for Evaluation - Istanbul Technical University

01/21/2016

Program Information

Program Name	Degree	Evaluation Type	% of Distance Education	Multiple Campus	Retroactiv Years
Aeronautical Engineering	B.S.	Comprehensive Visit	0 %	No	
Astronautical Engineering	B.S.	Comprehensive Visit	0 %	No	
Chemical Engineering	B.S.	Comprehensive Visit	0 %	No	
Civil Engineering	B.S.	Comprehensive Visit	0 %	No	
Computer Engineering	B.S.	Comprehensive Visit	0 %	No	
Control and Automation Engineering	B.S.	Comprehensive Visit	0 %	No	
Electrical Engineering	B.S.	Comprehensive Visit	0 %	No	
Environmental Engineering	B.S.	Comprehensive Visit	0 %	No	
Food Engineering	B.S.	Comprehensive Visit	0 %	No	
Geological Engineering	B.S.	Comprehensive Visit	0 %	No	
Geomatics Engineering	B.S.	Comprehensive Visit	0 %	No	
Geophysical Engineering	B.S.	Comprehensive Visit	0 %	No	
Industrial Engineering	B.S.	Comprehensive Visit	0 %	Yes	
Management Engineering	B.S.	Comprehensive Visit	0 %	Yes	
Manufacturing Engineering	B.S.	Comprehensive Visit	0 %	Yes	
Mechanical Engineering	B.S.	Comprehensive Visit	0 %	Yes	
Metallurgical and Materials Engineering	B.S.	Comprehensive Visit	0 %	No	
Meteorological Engineering	B.S.	Comprehensive Visit	0 %	No	
Mining Engineering	B.S.	Comprehensive Visit	0 %	No	
Naval Architecture and Marine Engineering	B.S.	Comprehensive Visit	0 %	No	
Petroleum and Natural Gas Engineering	B.S.	Comprehensive Visit	0 %	No	
Shipbuilding and Ocean Engineering	B.S.	Comprehensive Visit	0 %	No	
Textile Engineering	B.S.	Comprehensive Visit	0 %	Yes	
Mineral Processing Engineering	B.S.	Initial Accreditation	0 %	No	2
Electronics and Communication Engineering	B.S.	Initial Accreditation	0 %	No	2

RFE Submission / APPROVAL→ 21.01.16 / 11.02.16

2016-2017 Request for Evaluation - Istanbul Technical University

01/21/2016

Program Info Links

Program Name	Web Address
Aeronautical Engineering (B.S.)	http://www.uubf.itu.edu.tr/akademik/ucak http://www.faa.itu.edu.tr/Icerik.aspx?sid=4362
Astronautical Engineering (B.S.)	http://www.faa.itu.edu.tr/Icerik.aspx?sid=4363 http://www.uubf.itu.edu.tr/akademik/uzay
Chemical Engineering (B.S.)	http://www.che.itu.edu.tr/english/
Civil Engineering (B.S.)	http://insmuh.itu.edu.tr/akreditasyon/abet http://insmuh.itu.edu.tr/en/accreditation/abet
Computer Engineering (B.S.)	http://bb.itu.edu.tr/ http://bb.itu.edu.tr/egitim/bilgisayar-muhendisligi--lisans
Control and Automation Engineering (B.S.)	http://www.kontrol.itu.edu.tr/
Electrical Engineering (B.S.)	http://www.elk.itu.edu.tr/ELK/0index.html http://www.elk.itu.edu.tr/ELK/0akredit.html http://www.elk.itu.edu.tr/ELK/index.html
Electronics and Communication Engineering (B.S.)	http://www.ehb.itu.edu.tr/index.php?id=abet-page&lang=en http://www.ehb.itu.edu.tr/index.php?lang=en
Environmental Engineering (B.S.)	http://www.cevre.itu.edu.tr/?p=home&l=en http://www.cevre.itu.edu.tr/?p=abet&l=en http://www.cevre.itu.edu.tr/?p=home
Food Engineering (B.S.)	http://www.food.itu.edu.tr/
Geological Engineering (B.S.)	http://jeoloji.itu.edu.tr/ http://www.jeoloji.itu.edu.tr/Icerik.aspx?sid=12867
Geomatics Engineering (B.S.)	http://geomatik.itu.edu.tr/
Geophysical Engineering (B.S.)	http://www.geop.itu.edu.tr
Industrial Engineering (B.S.)	http://www.end.itu.edu.tr/ http://www.end.itu.edu.tr/ABET
Management Engineering (B.S.)	http://www.islmuh.itu.edu.tr/?page_id=6492 www.islmuh.itu.edu.tr
Manufacturing Engineering (B.S.)	http://www.mkn.itu.edu.tr/page/33
Mechanical Engineering (B.S.)	http://www.mkn.itu.edu.tr/page/32
Metallurgical and Materials Engineering (B.S.)	http://www.mme.itu.edu.tr/en/abet-en/ http://www.mme.itu.edu.tr/en/ http://www.mme.itu.edu.tr/tr/
Meteorological Engineering (B.S.)	http://www.faa.itu.edu.tr/Icerik.aspx?sid=4364
Mineral Processing Engineering (B.S.)	http://www.cevher.itu.edu.tr/
Mining Engineering (B.S.)	http://www.madenmuh.itu.edu.tr
Naval Architecture and Marine Engineering (B.S.)	http://www.gigm.itu.edu.tr/?page_id=12
Petroleum and Natural Gas Engineering (B.S.)	http://www.petrole.itu.edu.tr/Icerik.aspx?sid=12947
Shipbuilding and Ocean Engineering (B.S.)	http://www.gdt.itu.edu.tr
Textile Engineering (B.S.)	http://tekstil.itu.edu.tr/en/academic/textile-engineering/accreditation/ABET

Time Line / Neredeyiz?

ABET ÇALIŞMALARI SÜREÇ PLANININ BELİRLENMESİ (ITU-AKUK, ITU-ODEK)

14.01.2015

ABET BÖLÜM TEMSİLCİLERİ İLE TOPLANTI (ITU-AKUK, ITU-ODEK)

21.01.2015 — 21.01.15 BİLGİLENDİRME-1

ABET KOŞULLARINDAKİ DEĞİŞİKLİKLER VE UYUM DEĞERLENDİRMESİ (ITU-AKUK, ITU-ODEK)

27.02.15 BİLGİLENDİRME

[27.02.2015] → AKÜK Toplantısı

[05.03.2015] → BBABKo Toplantısı

2015 MART SONU — 05.03.15 BİLGİLENDİRME-2

BÖLÜM ABET TEMSİLCİLERİNİN DURUM DEĞERLENDİRMESİ RAPORLARINI (DTR) ABET ÜST KURULUNA SUNMASI

17.11.15 BİLGİLENDİRME-3

Planlanan teslim tarihi: 2015 MAYIS BAŞI

Gerçekleşen teslim tarihi: 21.11.2015

ABET ÇALIŞMALARI İLE İLGİLİ ORTAK ÇÖZÜM ÇALIŞMALARI İÇİN ÖNERİLER VE DURUM DEĞERLENDİRMESİ

Planlanan tarih: 2015 MAYIS SONU

*DTR'larının 7 ay gecikmesi nedeniyle gerçekleştirilememiştir.

BÖLÜMLERİN ABET ÇALIŞMA SÜREÇ PLANLARINI ORTAYA KOYMALARI

Planlanan tarih: 2015 EYLÜL BAŞI ← ÇALIŞTAY

*Bu konudaki geri dönüşler DTR'ler ile sınırlı kalmıştır.

11.12.15 BİLGİLENDİRME-4

ABET AKREDİTASYON BAŞVURUSU (Çevrim-içi ve Basılı Belgelerin gönderimi) / ITU-AKUK ve ITU-ODEK

Resmi ABET iş teslim son-günü: 31 OCAK 2016

Gerçekleşen teslim tarihi : 21.01.2016

Başvuru kabul tarihi : 11.02.2016

GÜNCEL DURUM

ABET BÖLÜM TEMSİLCİLERİ (BBABKo) İLE TOPLANTI-5 (ITU-AKUK, ITU-ODEK)

[16.02.2016] → BBABKo Toplantısı-5

16.02.16 **BİLGİLENDİRME-5**

BÖLÜMLERİN, DEKANLIKLARIN, REKTÖRLÜĞÜN RAPOR EKLERİNİ HAZIRLAMALARI

ŞUBAT-MAYIS 2016

BÖLÜMLERİN ÖZDEĞERLENDİRME RAPORLARINI (SSR) TAMAMLAMALARI VE GÖNDERİM..

1-10 HAZİRAN 2016

(Resmi ABET iş teslim son-günü / İTÜ : 30 HAZİRAN 2016)

HAKEMLERİN (PEV) ZİYARETLERİ

KASIM-ARALIK 2016

Time Line / Neredeyiz?

Accreditation Schedule

Year 1	November	Readiness review (new-to-ABET institutions)
	December	
	January	Request for evaluation submitted
	February	
	March	
	April	
	May	Visit dates set / Teams assembled
	June	
	July	Self-study reports submitted
	August	PEVs review reports, send pre-visit questions, set visit schedule
	September	
	October	Visits occur
	November	
Year 2	December	
	January	Due process • Exit Statements edited to Draft Statements • Institutions respond to Draft Statements • Final Statements edited
	February	
	March	
	April	
	May	
	June	
	July	Accreditation actions approved
	August	
	September	Institutions notified of accreditation actions

CURRENT STATUS

ABET *Ref: 05_2015_ABETSymposium_PreparingSSR_PPP_1429880502_240415.pdf, p.14*

Content / Gündem Detayı

1. **ITU ABET EAC Re-Accreditation TASKFORCE**
   - » 2016-2017 ABET EAC Akreditasyon Yenileme Döngüsüne hazırlık çalışmaları görevlileri ve bilgi kaynakları
2. **CRITICAL HIGHLIGHTS for 2016-2017 Review Cycle**
   - » 2016-2017 ABET EAC Akreditasyon Yenileme/İlk Akreditasyon Döngüsüne hazırlık bağlamında KRİTİK HATIRLATMALAR
3. **Example PRESENTATION-01 → 2015 ABET Symposium**

   «*Preparing the Self-Study Report for Engineering*» by Jeffrey W. Fergus, April 2015 ABET Symposium.
4. **Example PRESENTATION-02 → 2015 ABET Symposium**

   «*Conversion of Penn State's Chemical Engineering Program Assessment and Evaluation Process*» by Darrell Velegol, Nov 2015 ABET Symposium.

1. ITU ABET EAC Re-Accreditation TaskForce

Institutional Representatives and the overall TaskForce in charge of all preparations AND resources for the 2016-2017 ABET EAC Re-Accreditation Cycle

1. ITU Accreditation TaskForce

1.1 Responsible Bodies→ *MyABET*, *ninova.itu.edu.tr/*

The following hierarchial flow of responsible bodies are valid for all ITU Undergrad Programs seeking for re-accreditation and/or initial accreditation (23+2)

- **Rector (x1)**
- *ITU ABET Internal Coordinators (x3)*
  (Overall coordination within ITU and between ITU and ABET)
- **Deans (x10)**
- **Department Heads (BB) (x25)**
- **ABET Department Coordinators (ABKo) (x28)**
- **ABET Department Coordination Boards (ABKoK)**
- **Departments' Commissions**
- **All Faculty (Academicians) in the Departments**

1. ITU Accreditation Resources

1.2 Main and Additional References → *www.abet.org, ninova.itu.edu.tr/*

Publically accessible resources

http://www.abet.org

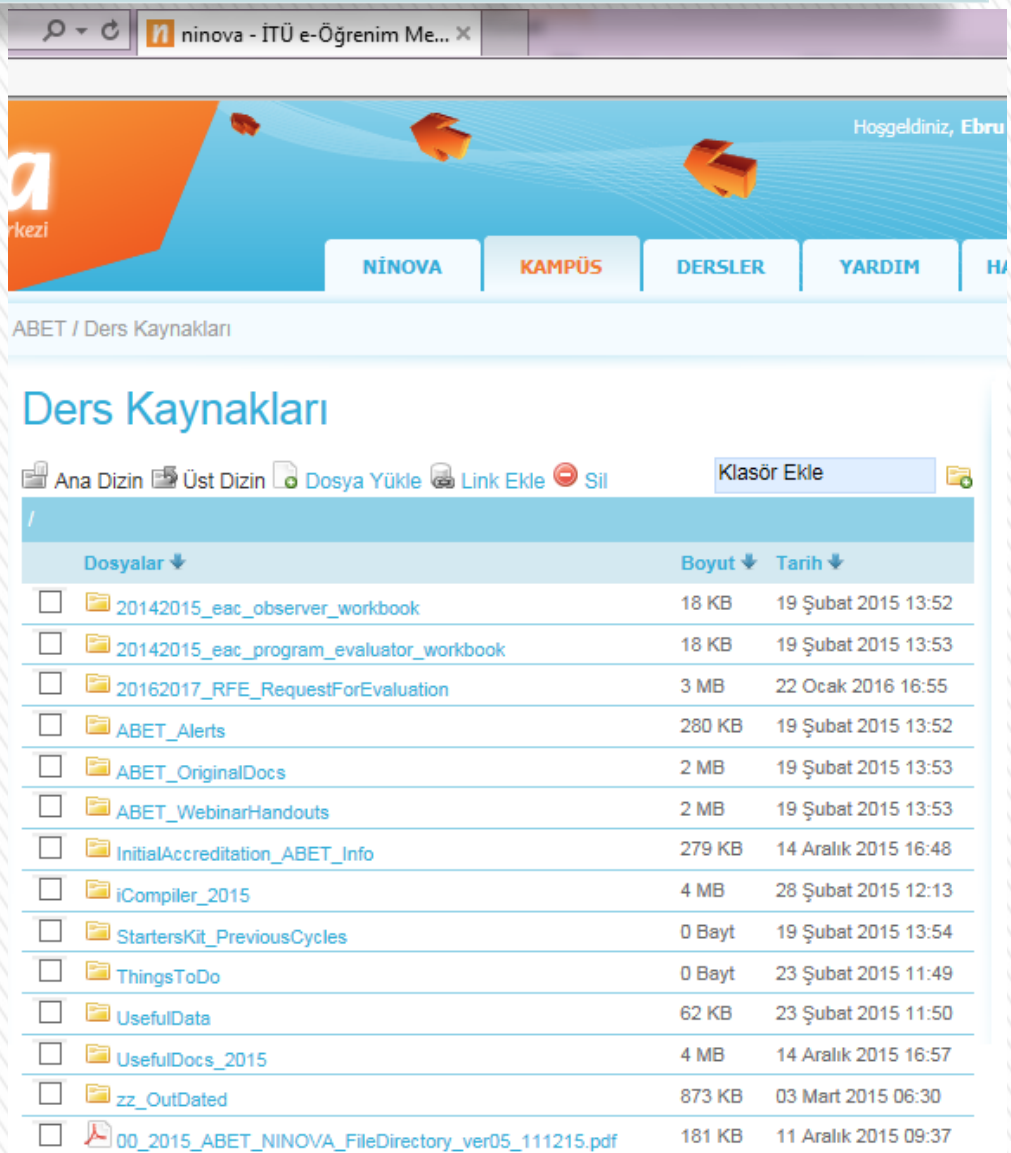
Resources open to Department Heads (BB), ABET Department Coordinators (ABKo)

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

NINOVA → ABET dersi → Ders Kaynakları

NINOVA → ABET dersi → BBABKo sınıfı Duyuruları

Bu sistemde bulunan tüm duyurular, ana ve yardımcı kaynaklar 19 Şubat 2015 tarihi itibariyle Bölüm Başkanlarının (BB) ve ABET Bölüm Koordinatörlerinin (ABKo) erişiminde olup, **sistemdeki kaynakların** 2016-2017 ABET EAC akreditasyon yenileme döngüsüne hazırlık çalışmaları kapsamında **ilgili görevlilerle ve tüm Bölüm öğretim üyeleri ile paylaşımı BBABKo -Bölüm Başkanları ve ABET Bölüm Koordinatörleri-nin tercih, görev ve sorumluluğu dahilindedir**.



1. ITU Accreditation Resources

1.3.a NEW Uploads / ASSESSMENT → *www.abet.org, ninova.itu.edu.tr/*

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

ABET's «*Assessment Reading List*» Docs UPLOADED (as of 03.02.16)

NINOVA → ABET dersi → Ders Kaynaklari → StartersKit → HelpingDocs_Assessment → *[21 docs (00-20)]*

Illustration credits (14.02.16): http://studentlife.gatech.edu/content/assessment

00_20162017_ABET_AssessmentReadingList_ver01_010216	01-Feb-16 16:19
01_2008_AdminUnitsAssessmentPlan_Departments_Handbook_UnivCentralFlorida...	11-Feb-15 21:02
02_2006_StudentLearningAssessment_Details_Compilation_011106	11-Feb-15 21:01
03_2012_StudentLearningAssessment_Principles_ShortList_021112	11-Feb-15 21:00
04_2008_CourseOutcomeAssessment_DirectMeasures_Paper_ASEEConf2008_010108	20-Jan-15 21:51
05_2002_LabReportGrading_Rubrics_Paper_ASEEConf2002_010102	11-Feb-15 20:58
06_2008_CommunicationSkills_Ethics_Assessment_Rubrics_Paper_AJBE2008_061008	11-Feb-15 21:00
07_2008and2011_EstablishAssessTimelinesResponsibilities_290811	03-Feb-16 09:21
08_2007and2011_SampleProtocolPilotTestingSurveyItems_290811	03-Feb-16 09:22
09_2009and2011_AssessmentPlanningMatrix_290811	03-Feb-16 09:23
10_2008and2011_SelfAssessmentTools_290811	03-Feb-16 09:23
12_2011_Assess101_CanYouPleaseRepeatTheQuestion_300811	03-Feb-16 09:25
13_2011_Assess101_UltimateOpenEndedDesignProblem_300811	03-Feb-16 09:25
14_2011_Assess101_DeathByAssessment_HowMuchDataAreTooMuch_290811	03-Feb-16 09:26
15_2011_Assess101_DirectAndIndirectAssessment_290811	03-Feb-16 09:27
16_2011_Assess101_DoGradesMakeTheGradeforProgramAssessment_290811	03-Feb-16 09:28
17_2011_Assess101_LessonsLearned_ThingsIWishIHadKnown_300811	03-Feb-16 09:29
18_2011_Assess101_MakingAListAndCheckingItTwice_300811	03-Feb-16 09:30
19_2011_Assess101_SurveysAndQuestionnaires_DoTheyMeasureUp_300811	03-Feb-16 09:30
20_2011_Assess101_UsingGradesForProgramAssessment_290811	03-Feb-16 09:31

1. ITU Accreditation Resources

1.3.b Reminders / Webinars, PEV workbook → *www.abet.org, ninova.itu.edu.tr/*

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

ABET's *«Webinar Handouts»* UPLOADED (as of 19.02.15)

NINOVA → ABET dersi → Ders Kaynaklari → ABET_WebinarHandouts → *[6 docs (00-05)]*

00_20162017_ABET_Webinars_ver01_040216	04-Feb-16 08:06
01_2010_ABET_DefiningStudentOutcomes_Handout_ABETwebinar2010_201010	20-Jan-15 19:37
02_2010_ABET_DevelopingRubrics_Handout_ABETwebinar2010_021110	20-Jan-15 19:39
03_2010_ABET_DevelovingSurveys_Handout_ABETwebinar2010_081110	20-Jan-15 19:40
04_2010_ABET_ChoosingAssessmentMethods_Handout_ABETwebinar2010_071210	20-Jan-15 19:38
05_2011_ABET_OnsiteVisitLogistics_Handout_ABETwebinar2010_240111	20-Jan-15 19:38

ABET's *«PEV Workbook»* UPLOADED (as of 19.02.15) → *[21 docs]*

NINOVA → ABET dersi → Ders Kaynaklari → 20142015_eac_program_evaluator_workbook

20152016_PEV → Currently available at www.abet.org

20162017 PEV → to be uploaded by ABET as of March 1, 2016 → *direct corresp. w/ ABET on 04.02.16* → «*These documents are scheduled to be updated and available by March 1, 2016 for the upcoming visits this fall*» Jane Emmet, Director -Accreditation Operations-ABET.

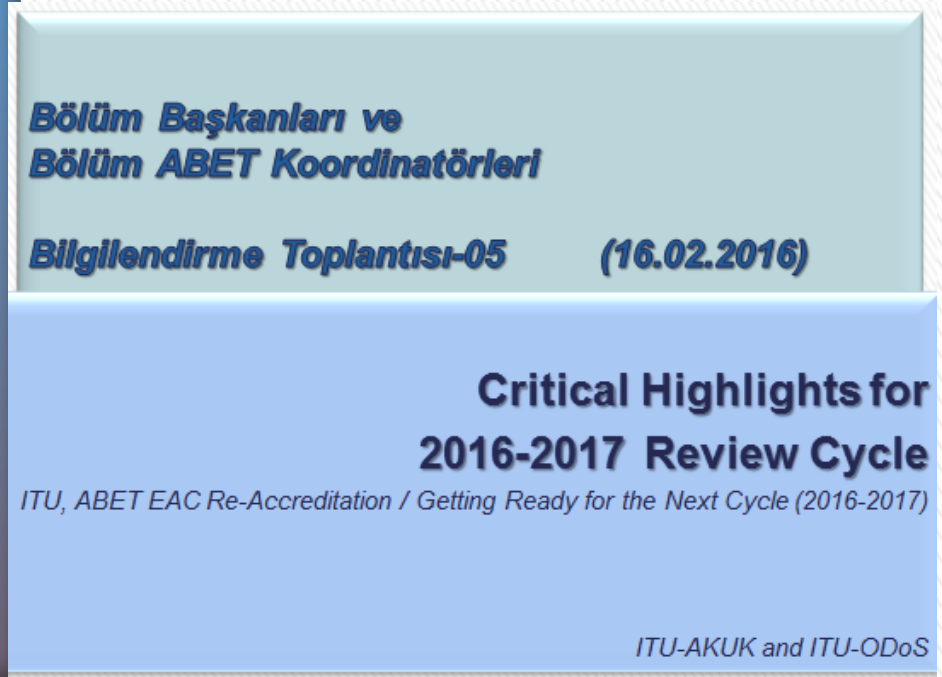
1. ITU Accreditation Resources

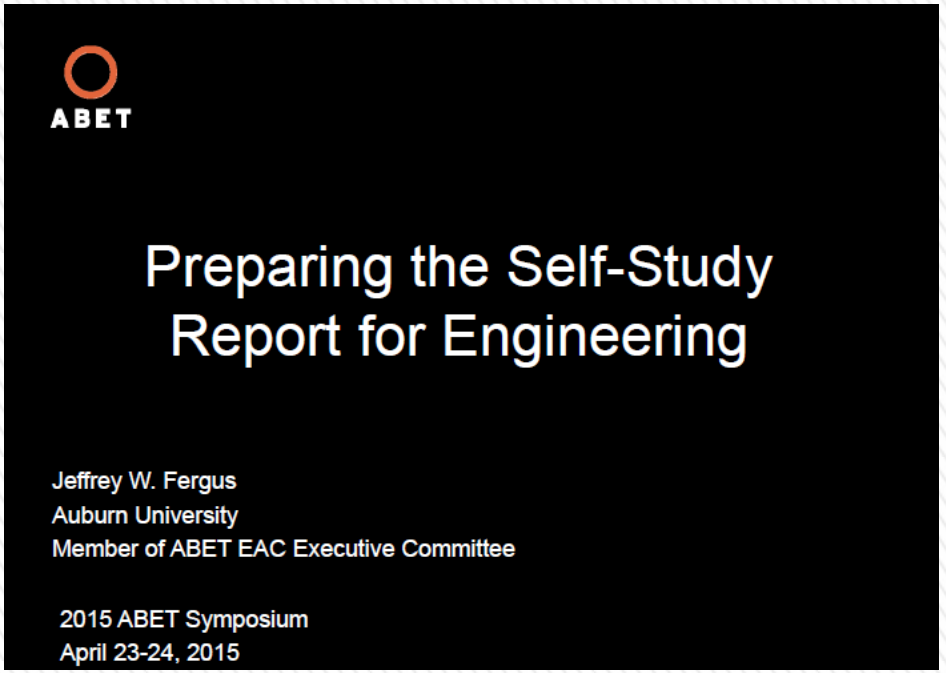
1.3.c NEW Uploads / Presentations→ *ninova.itu.edu.tr/*

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

1. *THIS PRESENTATION →*
NINOVA → ABET dersi → Ders Kaynaklari → iCompiler_2015 →
05_2016_ABET_BBABKoToplanti05_CriticalHighlights_PPP_ver02_160216

2. *2015 ABET Symposium, April 2015, PRESENTATION by J. Fergus →*
NINOVA → ABET dersi → Ders Kaynaklari → ABET_SymposiaDocs →
2015_ABETSymposium_PreparingSSR_PPP_1429880502_240415





2. Critical Highlights for 2016-2017 Review Cycle

2016-2017 ABET EAC Re-Accreditation (23 UP) and Initial Accreditation (2 UP) Cycle Prep Work

CRITICAL THINGS to REMEMBER

2. 2016-2017 Critical Highlights

2.1.a Definition by ABET → *www.abet.org , ninova.itu.edu.tr/*

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

ABET (Ders Kaynaklari) → ABET_OriginalDocs →

20162017_ABET_EAC_CurrentCriteria_E001_102015

Criteria for Accrediting Engineering Programs /
Effective for Reviews during the 2016-2017 Accreditation Cycle

*«While ABET recognizes and supports the prerogative of institutions to adopt and use the terminology of their choice, it is necessary for ABET volunteers and staff to have a consistent understanding of terminology. With that purpose in mind, the Commissions will use the following **basic definitions** :»*

Program Educational Objectives (PEO)

Program educational objectives are broad statements that describe what graduates are expected to attain within a few years of graduation.

Program educational objectives are based on the needs of the program's constituencies.

2. 2016-2017 Critical Highlights

2.1.b Definition by ABET → *www.abet.org , ninova.itu.edu.tr/*

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

ABET (Ders Kaynaklari) → ABET_OriginalDocs →

20162017_ABET_EAC_CurrentCriteria_E001_102015

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Student Outcomes (OC)

Student outcomes describe what students are expected to know and be able to do by the time of graduation.

These relate to the skills, knowledge, and behaviors that students acquire as they progress through the program.

2. 2016-2017 Critical Highlights

2.1.c Definition by ABET → *www.abet.org , ninova.itu.edu.tr/*

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

ABET (Ders Kaynaklari) → ABET_OriginalDocs →

20162017_ABET_EAC_CurrentCriteria_E001_102015

Criteria for Accrediting Engineering Programs /
Effective for Reviews during the 2016-2017 Accreditation Cycle

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Assessment (A)

Assessment is one or more processes that identify, collect, and prepare data to evaluate the attainment of student outcomes.

Effective assessment uses relevant direct, indirect, quantitative and qualitative measures as appropriate to the outcome being measured.

Appropriate sampling methods may be used as part of an assessment process.

2. 2016-2017 Critical Highlights

2.1.d Definition by ABET → *www.abet.org , ninova.itu.edu.tr/*

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

ABET (Ders Kaynaklari) → ABET_OriginalDocs →

20162017_ABET_EAC_CurrentCriteria_E001_102015

Criteria for Accrediting Engineering Programs /
Effective for Reviews during the 2016-2017 Accreditation Cycle

*«While ABET recognizes and supports the prerogative of institutions to adopt and use the terminology of their choice, it is necessary for ABET volunteers and staff to have a consistent understanding of terminology. With that purpose in mind, the Commissions will use the following **basic definitions** :»*

Evaluation (E)

Evaluation is one or more processes for interpreting the data and evidence accumulated through assessment processes.

Evaluation determines the extent to which student outcomes are being attained.

Evaluation results in decisions and actions regarding program improvement.

2. 2016-2017 Critical Highlights

2.1.c&d Definition by ABET → *www.abet.org , ninova.itu.edu.tr/*

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari
ABET (Ders Kaynaklari) → ABET_OriginalDocs →

20162017_ABET_EAC_SelfStudyReport_Template_180815

Self-Study Report Template - CRITERION 4. CONTINUOUS IMPROVEMENT
*«This section of your Self-Study Report should document **your processes** for **regularly assessing and evaluating** the extent to which the student outcomes are being attained. This section should also **document the extent** to which the student outcomes are being attained. It should also **describe how** the **results of these processes are utilized to affect continuous improvement** of the program.»*

A. Student Outcomes

It is recommended that this section include (a table may be used to present this information):

1. A **listing** and **description** of the **assessment processes** used to **gather the data** upon which the **evaluation** of each **student outcome is based**.

Examples of data collection processes may include, but are not limited to, specific exam questions, student portfolios, internally developed assessment exams, senior project presentations, nationally-normed exams, oral exams, focus groups, industrial advisory committee meetings, or other processes that are relevant and appropriate to the program.

2. The **frequency** with which these assessment processes are carried out
3. The **expected level of attainment** for each of the student outcomes
4. **Summaries of the results of the evaluation process** and an **analysis illustrating** the **extent** to which each of the **student outcomes** is being **attained**
5. How the **results** are **documented** and **maintained**

2. 2016-2017 Critical Highlights

2.1.c&d Definition by ABET → *www.abet.org , ninova.itu.edu.tr/*

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

ABET (Ders Kaynaklari) → ABET_OriginalDocs →

20162017_ABET_EAC_SelfStudyReport_Template_180815

Self-Study Report Template - CRITERION 4. CONTINUOUS IMPROVEMENT

*«This section of your Self-Study Report should document **your processes** for **regularly assessing and evaluating** the extent to which the student outcomes are being attained. This section should also **document the extent** to which the student outcomes are being attained. It should also **describe how** the **results of these processes are utilized to affect continuous improvement** of the program.»*

B. Continuous Improvement

Describe **how** the **results of evaluation** processes for the student outcomes and any other available information have been **systematically used as input in the continuous improvement** of the program. Describe the **results of any changes** (**whether or not effective**) in those cases where **re-assessment of the results** has been **completed**. Indicate **any significant future program improvement plans** based upon recent evaluations. **Provide a brief rationale** for each of these **planned changes**.

C. Additional Information

Copies of any of the assessment instruments or materials referenced in 4.A. and 4.B **must be available** for review at the time of the **visit**. Other information such as **minutes from meetings where the assessment results were evaluated** and where **recommendations for action were made** could also be included.

2. 2016-2017 Critical Highlights

2.2 GENERAL CRITERIA for BSc LEVEL PROGRAMS→

www.abet.org , ninova.itu.edu.tr/

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

ABET (Ders Kaynaklari) → ABET_OriginalDocs →

20162017_ABET_EAC_CurrentCriteria_E001_102015

Criteria for Accrediting Engineering Programs /
Effective for Reviews during the 2016-2017 Accreditation Cycle

«These criteria are intended to assure quality and to foster the systematic pursuit of improvement in the quality of engineering education that satisfies the needs of constituencies in a dynamic and competitive environment. It is the responsibility of the institution seeking accreditation of an engineering program to demonstrate clearly that the program meets the following criteria.»

I. GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

*«All programs seeking accreditation from the Engineering Accreditation Commission of ABET **must demonstrate that they satisfy all of the following General Criteria** for Baccalaureate Level Programs.»*

Criterion 1. Students
Criterion 2. Program Educational Objectives (PEO)
Criterion 3. Student Outcomes (OC)
Criterion 4. Continuous Improvement (CI)
Criterion 5. Curriculum
Criterion 6. Faculty
Criterion 7. Facilities
Criterion 8. Institutional Support

2. 2016-2017 Critical Highlights

Criterion 1. STUDENTS

20162017_ABET_EAC_CurrentCriteria_E001_102015

I. GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

Criterion 1. STUDENTS

- **Student performance must be evaluated.**
- **Student progress must be monitored** to foster success in attaining student outcomes, thereby enabling graduates to attain program educational objectives.
- **Students must be advised** regarding curriculum and career matters.
- The program must have and enforce policies for accepting both new and transfer students, awarding appropriate academic credit for courses taken at other institutions, and awarding appropriate academic credit for work in lieu of courses taken at the institution.
- The program must have and enforce procedures to ensure and document that students who graduate meet all graduation requirements.

2. 2016-2017 Critical Highlights

Criterion 2. PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

20162017_ABET_EAC_CurrentCriteria_E001_102015

I. GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

Criterion 2. Program Educational Objectives (PEOs)

- The program **must have published program educational objectives** that are **consistent with**
  - **the mission of the institution**,
  - **the needs of the program's various constituencies**, and
  - **these criteria**.
- There must be a
  - **documented,**
  - **systematically utilized**, and
  - **effective process**,
- **involving program constituencies**, for the **periodic review** of these program educational objectives **that ensures they remain consistent with the institutional mission, the program's constituents' needs, and these criteria**.

2. 2016-2017 Critical Highlights

Criterion 3. STUDENT OUTCOMES (OCs)

20162017_ABET_EAC_CurrentCriteria_E001_102015

I. GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

Criterion 3. Student Outcomes (OCs)

» The program **must have documented student outcomes** that **prepare graduates to attain the program educational objectives**.

» Student outcomes are outcomes (a) through (k) plus any additional outcomes that may be articulated by the program.

(a) an ability to apply knowledge of mathematics, science, and engineering
(b) an ability to design and conduct experiments, as well as to analyze and interpret data
(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
(d) an ability to function on multidisciplinary teams
(e) an ability to identify, formulate, and solve engineering problems
(f) an understanding of professional and ethical responsibility
(g) an ability to communicate effectively
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
(i) a recognition of the need for, and an ability to engage in life-long learning
(j) a knowledge of contemporary issues
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

2. 2016-2017 Critical Highlights

Criterion 4. CONTINUOUS IMPROVEMENT (CI)

20162017_ABET_EAC_CurrentCriteria_E001_102015

I. GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

Criterion 4. Continuous Improvement (CI)

» The program **must regularly use appropriate, documented processes** for
  > **assessing and**
  > **evaluating**

» **the extent to which the student outcomes are being attained.**

» The **results** of these **evaluations must be systematically utilized as input for the continuous improvement of the program.**

» Other available information may also be used to assist in the continuous improvement of the program.

2. 2016-2017 Critical Highlights

Criterion 5. CURRICULUM

20162017_ABET_EAC_CurrentCriteria_E001_102015

I. GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

Criterion 5. Curriculum

» The curriculum requirements specify subject areas appropriate to engineering but do not prescribe specific courses. The faculty must ensure that the **program curriculum** devotes adequate attention and time to **each component**, **consistent with the outcomes and objectives of the program and institution**. The professional component must include:

(a) one year of a combination of college level **mathematics and basic sciences** (**some with experimental experience**) appropriate to the discipline. **Basic sciences** are defined as **biological, chemical, and physical sciences**.

(b) one and one-half years of engineering topics, consisting of **engineering sciences and engineering design** appropriate to the student's field of study.

***The engineering sciences have their roots in mathematics and basic sciences but carry knowledge further toward creative application**. These studies provide a bridge between mathematics and basic sciences on the one hand and engineering practice on the other.

*__Engineering design__ is the process of **devising** a **system, component, or process to meet desired needs**. It is a **decision-making process** (often iterative), in which the **basic sciences, mathematics, and the engineering sciences are applied to convert resources optimally to meet these stated needs.**

(c) a general education component that complements the technical content of the curriculum and is consistent with the program and institution objectives.

» Students must be prepared for engineering practice through a curriculum culminating in a **major design experience based on the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards and multiple realistic constraints**.

» One year is the lesser of 32 semester hours (or equivalent) or one-fourth of the total credits required for graduation.

2. 2016-2017 Critical Highlights

Criterion 6. FACULTY

20162017_ABET_EAC_CurrentCriteria_E001_102015

I. GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

Criterion 6. Faculty

- The program must demonstrate that the faculty members are of sufficient number and they have the competencies to cover all of the curricular areas of the program.
- There must be sufficient faculty to accommodate adequate levels of **student-faculty interaction**, **student advising and counseling**, **university service activities, professional development, and interactions with industrial and professional practitioners**, **as well as employers of students**.
- The program faculty must have appropriate qualifications and **must have and demonstrate** sufficient authority to **ensure the proper guidance of the program** and to **develop and implement processes for the evaluation**, **assessment**, **and continuing improvement of the program**.
- The **overall competence of the faculty** may be judged by such factors as **education, diversity of backgrounds, engineering experience, teaching effectiveness and experience, ability to communicate, enthusiasm for developing more effective programs, level of scholarship, participation in professional societies**, and licensure as Professional Engineers.

2. 2016-2017 Critical Highlights

Criterion 7. FACILITIES

20162017_ABET_EAC_CurrentCriteria_E001_102015

I. GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

Criterion 7. Facilities

- Classrooms, offices, laboratories, and associated equipment must be adequate **to support attainment of the student outcomes** and to provide an atmosphere conducive to learning.
- Modern tools, equipment, computing resources, and laboratories appropriate to the program **must be available, accessible, and systematically maintained and upgraded to enable students** to **attain the student outcomes and to support program needs**. **Students must be provided appropriate guidance regarding the use of the tools, equipment, computing resources, and laboratories available to the program.**
- The library services and the computing and information infrastructure must be adequate to support the scholarly and professional activities of the students and faculty.

2. 2016-2017 Critical Highlights

Criterion 8. Institutional SUPPORT

20162017_ABET_EAC_CurrentCriteria_E001_102015

I. GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

Criterion 8. Institutional Support

- Institutional support and leadership must be adequate to ensure the quality and continuity of the program.
- Resources including institutional services, financial support, and staff (both administrative and technical) provided to the program must be adequate to meet program needs.
- The resources available to the program must be sufficient to attract, retain, and provide for the continued professional development of a qualified faculty.
- The resources available to the program must be sufficient to acquire, maintain, and operate infrastructures, facilities, and equipment appropriate for the program, and to provide an environment in which student outcomes can be attained.

2. 2016-2017 Critical Highlights

2.3 PROGRAM CRITERIA Specific for PROGRAMS→

www.abet.org , ninova.itu.edu.tr/

http://ninova.itu.edu.tr/Sinif/5849.16037/DersDosyalari

ABET (Ders Kaynaklari) → ABET_OriginalDocs →

20162017_ABET_EAC_CurrentCriteria_E001_102015

Criteria for Accrediting Engineering Programs /
Effective for Reviews during the 2016-2017 Accreditation Cycle

«These criteria are intended to assure quality and to foster the systematic pursuit of improvement in the quality of engineering education that satisfies the needs of constituencies in a dynamic and competitive environment. It is the responsibility of the institution seeking accreditation of an engineering program to demonstrate clearly that the program meets the following criteria.»

III. PROGRAM CRITERIA

- *Each program must satisfy applicable Program Criteria (if any). Program Criteria provide the specificity needed for interpretation of the general criteria as applicable to a given discipline.*
- *Requirements stipulated in the Program Criteria are limited to the areas of **curricular topics** and **faculty qualifications**.*
- *If a program, by virtue of its title, becomes subject to two or more sets of Program Criteria, then that program must satisfy each set of Program Criteria; however, overlapping requirements need to be satisfied only once.*

2. 2016-2017 Critical Highlights

2.3 PROGRAM CRITERIA Specific for PROGRAMS→

www.abet.org , ninova.itu.edu.tr/

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ABET (Ders Kaynaklari) → ABET_OriginalDocs →

20162017_ABET_EAC_CurrentCriteria_E001_102015

III. PROGRAM CRITERIA

PROGRAM CRITERIA FOR ENVIRONMENTAL AND SIMILARLY NAMED ENGINEERING PROGRAMS

Example

Lead Society: American Academy of Environmental Engineers and Scientists
Cooperating Societies: American Institute of Chemical Engineers, American Society of Agricultural and Biological Engineers, American Society of Civil Engineers, American Society of Heating, Refrigerating and Air-Conditioning Engineers, American Society of Mechanical Engineers, SAE International, and Society for Mining, Metallurgy, and Exploration

These program criteria apply to engineering programs that include "environmental," "sanitary," or similar modifiers in their titles.

1. ***Curriculum***
2. ***Faculty***

2. 2016-2017 Critical Highlights → changes since 2010

Example

2.3 Changes in Program Criteria for Environ Engr UP

ABET EAC 2010-2011 Prog Criteria

1. Curriculum

The ***program*** must ***demonstrate the graduates have***:

» ***proficiency in*** mathematics through differential equations, probability and statistics, calculus-based physics, ~~***general***~~ ***chemistry***, an earth science, ~~e.g., geology, meteorology, soil science, relevant to the program of study~~, a biological science, ~~e.g., microbiology, aquatic biology, toxicology, relevant to the program of study~~, and fluid mechanics ~~relevant to the program of study~~;

» ***introductory level knowledge of environmental issues associated with*** air, ***land***, and water systems ~~and associated environmental health impacts~~;

» ~~an ability to~~ conduct laboratory experiments and to ~~critically~~ analyze and ***interpret data*** in more than one major environmental engineering focus areas, e.g., air, water, land, environmental health;

» ~~an ability to~~ ***perform engineering design by means of design experiences integrated throughout the professional component of the curriculum***;

» ***proficiency in*** advanced principles and practice relevant to the program objectives;

» understanding of concepts of professional practice and the roles and responsibilities of public institutions and private organizations pertaining to ***environmental*** ~~***engineering***~~.

ABET EAC 2016-2017 Prog Criteria

1. Curriculum

The **curriculum** must **prepare graduates to**

» **apply knowledge** of mathematics through differential equations, probability and statistics, calculus-based physics, **chemistry (including stoichiometry, equilibrium, and kinetics)**, an earth science, a biological science, and fluid mechanics.

The curriculum must prepare graduates to

» **formulate material and energy balances**, and **analyze the fate and transport of substances in and between** air, water, and **soil** phases;

» conduct laboratory experiments, and analyze and **interpret the resulting data** in more than one major environmental engineering focus area, e.g., air, water, land, environmental health;

» design **environmental** engineering **systems** that **include considerations** of **risk, uncertainty, sustainability, life-cycle principles, and environmental impacts**; and

» **apply** advanced principles and practice relevant to the program objectives.

The curriculum must prepare graduates

» to understand concepts of professional practice, **project management**, and the roles and responsibilities of public institutions and private organizations pertaining to **environmental policy and regulations**.

2. 2016-2017 Critical Highlights → *changes since 2010*

Example

2.3 Changes in Program Criteria for Environ Engr UP

ABET EAC 2010-2011 Prog Criteria	ABET EAC 2016-2017 Prog Criteria
2. Faculty The program must demonstrate that a majority of those faculty teaching courses which are primarily design in content are qualified to teach the subject matter by virtue of » professional licensure, or by » education and equivalent design experience.	**2. Faculty** The program must demonstrate that a majority of those faculty teaching courses that are primarily design in content are qualified to teach the subject matter by virtue of » professional licensure, » **board certification in environmental engineering**, or by » education and equivalent design experience.

3-4. Example PRESENTATIONs from 2015 ABET Symposia

«Preparing the Self-Study Report for Engineering» by Jeffrey W. Fergus, April 2015

«Conversion of Penn State's Chemical Engineering Program Assessment and Evaluation Process» by Darrell Velegol, Nov 2015

3-4. PRESENTATIONs / 2015 ABET Symposia

ABET

Preparing the Self-Study Report for Engineering

Jeffrey W. Fergus
Auburn University
Member of ABET EAC Executive Committee

2015 ABET Symposium
April 23-24, 2015

Conversion of Penn State's Chemical Engineering Program Assessment and Evaluation Process

An ABET system: 10 practical steps.

1. Simple and sustainable for you and your program
2. Effective in improving the educational experience

PennState College of Engineering | CHEMICAL ENGINEERING

Darrell Velegol
2015 November 10