Ohio Northern University
Electrical & Computer Engineering and Computer Science Department

Faculty Course Assessment Report (FCAR) Instructions

Modified Version for Best Assessment Processes VII Symposium
Last modified 16December 2004

The Faculty Course Assessment Report (FCAR) presents a methodology that allows assessment reports to be written in a format conducive for use in ABET Criterion 3 program outcomes assessment. In addition to traditional assessment reporting, the FCAR lists modifications incorporated into the course, reflection on the part of the instructor as to what was effective, and suggestions for further improvements. To assist in program outcomes assessment, additional information is collected in certain specified areas and incorporated into the FCAR. This facilitates program-level assessment in that, instead of processing raw data, assessors review the pertinent sections of an appropriate set of FCARs, thereby reducing the assessment workload. Reports are collected and disseminated to allow instructors to inspect prior offerings of specific courses and adopt the suggestions found therein, thereby improving the course with each offering.

The FCAR consists of the following sections:

1. **Header** – Provide both the subject code and course number, followed by course title. If this course is offered in multiple sections by different faculty, then each faculty member is to submit an FCAR that summarizes the assessment of all sections for which he/she is responsible. Indicate the section(s) within parentheses that the Report is covering. List the academic term that the Report is for and the instructor of record for the course.

2. **Catalog description** – Give the catalog description under which this course was taught. Providing this information will, over time, document changes made to the catalog description without the need for keeping previous university catalogs on file. Additionally, the catalog only shows that the course description was changed; it does not document why it was changed, nor does it indicate what feedback elements of the assessment process led to this change. The FCAR documents this activity in the "Course Modifications" section.

3. **Grade distribution** – List the distribution of grades for the course, including withdrawals. While it is possible to obtain most of this information from one's Office of Instructional Research, it is preferable that the instructor directly provide this data so that (a) it is obtained in a timely manner, and (b) by actively engaging in this computation, the instructor can better reflect upon the results. At no time is any information included that would reveal the identity of individual students or their grades for the course.

4. **Modifications made to course** – When the continuous quality improvement process is working, changes are fed back into the program, which is often referred to as "closing the loop" on the assessment process. However, without appropriate documentation, changes made to the organization or operation of individual courses will go unrecognized. Accordingly, this is an important section as it provides contemporaneous documentation of course improvements made because of the assessment process. Please list any substantive changes made to the current offering of the course, and cite the source of the improvement (e.g. a previous FCAR, an action plan, minutes of a committee meeting, etc.), especially if it has been documented. These references are necessary so that each modification can be traced back to its source if so required. By combining this information with the relevant portions of the referenced items documenting the assessment process, one can easily demonstrate how the loop was closed for any particular modification.

5. **Course outcomes assessment** – List and address each outcome separately. Appropriate documentation stating what items were used for the assessment and the results of that assessment must be provided. There is no need to assess every question on every assignment; keep your workload manageable by picking an appropriate selection of items (e.g. specific exam questions, noteworthy assignments) and use those for your assessment.

> *(In this area please provide information regarding the procedure to be followed for your course outcomes assessment process.)*

6. **Program outcome assessment documentation ("Components")** – The assessment of course outcomes is, by itself, insufficient to meet the criteria for program outcomes and assessment. The data presented for satisfying the requirements for Criterion 3 have to be relative to the adopted program outcomes. However, this does not mean that the course outcomes assessment process cannot be used to assist in the program outcomes assessment process. This section of the Report is organized into "components" that roughly correspond to the individual items listed in the 3(a)-(k) program outcomes. While writing metrics for some of these outcomes border on the trivial and a wide variety of assessment data are readily available, some outcomes are more difficult to deal with and not easily documented save at the course level. As an example, take outcome (b) of ABET Criterion 3: "an ability to design and conduct experiments, as well as to analyze and interpret data." How does one sufficiently prove to a program evaluator that a graduate of the program has experience and expertise in designing experiments? Merely stating that this activity is being accomplished is insufficient and would likely result in the citing of a shortcoming. Documentation is needed to back up the claim, and this can be provided in the courses where design of experiments is occurring by the inclusion of a "Design of Experiments Component" in the submitted Reports for those courses. When writing this portion of the Report, the instructor presents the details regarding the assignment(s) in question and what steps were undertaken by students in order to design the experiment, along with assessment of the results. The person performing program outcome assessment in this area can now document that this activity is taking place by citing the FCARs of the relevant courses.

   Going through the list of outcomes in ABET Criterion 3, some of the areas that would be worth documenting if you are doing something of "sufficient substance" that it can be

pointed to as an example are the following: design of experiments, professional/ethical responsibility, communications (both written and oral), impact of solutions in a global and societal context, and contemporary issues. This is not meant to be an exhaustive list; however, it does cover some of the harder items to prove for Criterion 3. By providing contemporaneous documentation here, it at least demonstrates that these items have been addressed. A component should be listed only when there is something to report or when one is specifically instructed to do so as part of an assessment plan.

> *(In this area please provide information regarding the procedure to be followed to prepare data for your program outcomes assessment process.)*

7. **Student feedback** – When performing assessment, input should be obtained from all of the appropriate constituents; accordingly, it is reasonable and proper to incorporate student feedback into the Report. Please provide a synopsis of the course evaluation form feedback as it relates to the course. While some of the comments received from students are of dubious quality, or are of constructive criticism toward the instructor, there are other comments regarding course content and organization that are worthy of being shared. This section of the FCAR allows an instructor to publicly document and share constructive comments concerning the course. By sharing this information, the student comments regarding the course now reach a wider audience, increasing the likelihood that these comments will find their way into an action plan for improving the content of the course.

8. **Reflection** – The primary purpose of this section is to promote self-awareness on the part of the instructor. Given that the goal of assessment is to improve the program, it is imperative on the part of the instructor to keep an open mind while looking at the results so that shortcomings can be identified and corrected. The reflection section also provides the instructor the opportunity to document impressions regarding the effectiveness of instruction, extenuating circumstances that might have affected student performance, or items that fall outside the scope of the current set of course and program outcomes. Having the opportunity for reflection on the part of the instructor is very beneficial for both the improvement of the course and the improvement of the instructional methods used by the instructor. From an assessment standpoint, it allows for the documentation of those things that are not easily measurable and of things that are measurable but not encapsulated into the current set of course or program outcomes.

9. **Proposed actions for course improvement** – The specification of proposed actions for course improvement begins the "closing the loop" process, as these items constitute the result of the instructor's evaluation of the course via assessment, student feedback, and reflection. There are no restrictions as to what can be proposed; it could be as simple as a note to include material on a certain subject in an assignment, or a recommendation to the curriculum committee to create a new course to better deal with some of the subject material. Whatever suggestions are recorded by the instructor, it is essential that the appropriate parties in the department review these suggestions; to that end, one needs to incorporate the FCAR review into the overall assessment process as a regularly scheduled activity.

The following is an FCAR example. Please use this standard format when writing your Report.

Note: Our outcomes assessment process utilizes vectors to aggregate data. The "EEMU" vector reflects the number of students whose proficiency for that outcome was rated Excellent, Effective, Minimal, or Unsatisfactory. The "EPAN" vector is used for cohort longitudinal analysis (CLA) and rates students as Exemplary, Proficient, Apprentice, or Novice on their abilities in various areas, such as communication skills. The goal of CLA is to use the data to demonstrate skill improvement over the course of a cohort's academic career so that by the time of graduation, all students are at least proficient in all areas that are being measured.

Faculty Course Assessment Report
ECCS 000 – Introduction to ECCS (sections 00 and 01) – 1.00 credit
Fall Quarter 2003 - John K. Estell

Catalog Description:

Orientation to the department. Familiarization with requirements for the majors, planning program of courses, university catalog, and library. Exposure to TLAs such as PHP, ASP, PLC, BJT, etc. Philosophical discussion of the metavariables foo and bar.

Grade Distribution:

A	B	C	D	F	W	Total
3	5	11	4	2	1	26

Modifications Made to Course:

1. Dropped lecture on introduction to computer use on campus; students found the material redundant. Source: FCAR for ECCS 000 sections 03-04 Fall Quarter 2001 by Dr. Geithmann.
2. Included lectures on professional ethics based upon the ACM and IEEE Codes of Ethics. Source: 2002 Faculty Retreat, Action Plan #4 (Ethics Across the Curriculum)
3. Included information on using OhioLink for library searches as this technology is now available.

Course Outcomes Assessment:

1. Define basic TLAs relevant to the major.
   Sources: questions 10-19 on midterm exam; questions 1-10 on final exam.
   Results: average = 2.61 (excellent); EEMU vector: (18, 3, 0, 2)
2. Apply the metavariables foo and bar as appropriate for various situations.
   Sources: questions 1-8 on midterm exam; questions 20 and 21 on final exam.
   Results: average = 1.65 (effective); EEMU vector: (5, 6, 11, 1)

Communications Component:

Each student prepared and presented a five-minute oral presentation on their favorite TLA. Instructions were given in lecture regarding how to present this material in a professional manner. CLA category: Oral Communication. Results: average = 0.43 (novice), EPAN vector: (0, 2, 4, 17).

Ethics Component:

One lecture was dedicated to coverage of the ACM and IEEE Codes of Ethics and their role in daily professional life. A second lecture featured our Engineer-in-Residence discussing examples of ethics in the workplace. Final exam questions 14-17 were used to test retention of this information. Results: average = 2.52 (excellent), EEMU vector: (15, 6, 1, 1).

Contemporary Issues Component:

Time was spent in lecture relating the development of TLAs to the development of abbreviations used in cell phone text messaging.

Student Feedback:

On the student course evaluation forms, students indicated a general dissatisfaction with the lecture on career opportunities available to our majors. Some expressed an interest in having a mentoring program to ease the transition into college life. A couple of students indicated that we should spend less time on dealing with university paperwork and more on what it is like to be an engineer.

Reflection:

Overall, the course went well, but some areas need work. Half of the class demonstrated less than effective proficiency with metavariables. I don't think we did a sufficient job on explaining the rationale behind our common freshman core course sequences. We should advertise the successfulness of our alumni. The addition of the ethics lectures was well received; student enjoyed talking with a real engineer about the situations he's encountered in the workplace.

Proposed Actions for Course Improvement:

1. Dedicate one lecture to a panel discussion featuring alumni from each of our degree programs to discuss what they do on the job as engineers.
2. Develop new curriculum flowcharts that stress the commonality of the freshman year; use them to illustrate how students can freely change/decide their major within the department in the first year without any penalty.
3. Develop an active learning exercise featuring metavariables to provide students additional experiences with their use.