Department of Civil Engineering and Surveying
University of Puerto Rico - Mayagüez

System for the
Evaluation
of Education
SEED

Faculty Course Assessment Report (FCAR) [1]
Description & Instructions

- *EXAMPLE* -

Course Code & Number: SWEE-4743 **Sections:** 090, 100   **Total Credits:** 3

Course Tittle: Object-Oriented Development

Professor: Andrew Jackson   **Academic Term:** 2nd Sem 2005-06

Current Catalog Description: *(From Academic Catalog or Course Syllabus)*

This course involves engineering activities related to the analysis, design, and implementation of object-oriented software systems. Topics include modeling foundations, requirements specification and documentation, design concepts and strategies, and OOAD methodologies with an emphasis on UML. The course includes a major project utilizing current analysis and design methods and tools implemented in a contemporary IDE.

Grade Distribution:

A	B	C	D	F	W	I	S	U	Total
5	2	1							8

Modifications Made to Course: *(Based upon review of previous FCARs)*

Implementing my "actions planned for course improvement" made in the previous offering of the course, I got the students learning their new language and IDE earlier in the term, on the group project they begin the first week so they would have more experience and a longer exposure which should help less motivated students complete their project. Additionally this term I had the students build a simple prototype in the language investigation project to get them using the new language sooner.

Assessment **of Course Outcomes/Objectives:** *(Outcomes From Course Syllabus)*

1. Students will understand and be able to apply the principles of object-oriented software engineering to software analysis, design, and development.

> Source of Assessment: Final Exam Questions 1 - 4
> Average(2.125), EEMU vector(3,2,2,1)

2. Students will be able to effectively utilize current OOAD methodologies such as responsibility-driven design and UML.

> Source of Assessment: Final Exam Questions 1 - 4
> Average(2.125), EEMU vector(3,2,2,1)

3. Students will be able to use current software tools to effectively model, specify, design, and develop object-oriented software systems.

> Source of Assessment: Semester Project (using Rational Rose)
> Average(2.75), EEMU vector(7,0,1,0)

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[1] Prof. Hiram González, Assessment & Accreditation Coordinator (as adapted from Dr. John K. Estell's version, Ohio Northern University)
[2] Listing & Description of a-k Outcomes available at end of this form, for easy reference by each faculty member.

Program Outcomes _Assessment_ Documentation ("by Components):

a	b	c	d	e	f	g	h	i	j	k
	X		X		X		X			X

(applicable a-k[2] criteria from Course Syllabus)

Learning Outcome #9: **Demonstrate an ability to learn new languages and environments / paradigms for software systems.**

Performance Criteria:
Students will demonstrate the ability:
1. To use different environments / paradigms to develop a software system.

Source of Assessment: Semester Project
      Average(2.75), EEMU vector(7,0,1,0)

2. To be able to implement software in more than one programming language.

      Source of Assessment: Semester Project
      Average(2.75), EEMU vector(7,0,1,0)

Assessing the student performance using Cohort Longitudinal Analysis, or CLA, the corresponding EPAN vector is (7,0,1,0), with an Average of (2.75) which means the students demonstrated they had learned this outcome and performed at the ***PROFICIENT*** level. However, there were extenuating circumstances regarding the health and many absences of the student who was at the Apprentice level. I am certain he did learn the material, but since a lot of the work was turned in very late, his assessment was low. Discounting these issues, the rest of the class mastered the material and 7 out of 8 performed at the Exemplary level.

Student Feedback:

The students told me they really enjoyed bringing the concepts of design to a complete OO project, and said this was the first time they had done so from requirements to implementation. However, several students were unhappy with the language/IDE in which they worked, feeling that there was not enough information to help support their learning, and some had to make implementation choices they didn't want to make (e.g., regarding database connectivity in Smalltalk IDEs.)

Reflection:

Having the students start investigating the new language they will use to build their final project from the first week of class appears to have been successful. All the students were able to complete their projects, so I can say with certainty that this change (building their prototype in the first few weeks of class) made the difference.

Proposed Actions for Course Improvement:

The students chose any language and IDE they wanted, but some of the students weren't happy with the IDE due to a lack of information/support they were able to find. In previous terms, I will get more information available to the students and limit their choices to particular languages/IDEs that there is readily available information about. This should alleviate some of the frustration resulting from working in a new language/IDE with little support.

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[2] Listing & Description of a-k Outcomes available at end of this form, for easy reference by each faculty member.

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Listing & Brief Description of *a-k* Outcomes
(For readily & easy reference when filling out the FCAR)

a.	math/science/engineering …
b.	conduct experiments …
c.	engineering design …
d.	multi-disciplinary teamwork...
e.	problem solving …
f.	professionalism & ethics …
g.	communication skills …
h.	broad educ. & global impact...
i.	lifelong learning …
j.	contemporary issues …
k.	modern tools & techniques …