

# Building Assessment Functions into LMS for Efficient and Sustainable Accreditation Processes

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# Good Program Assessment Takes Lots of Work ...

- ◆ Collect student work for course journals and portfolios
- ◆ Conduct surveys of the constituencies
- ◆ Develop and evaluate rubrics
- ◆ Analyze, document, and present various assessment data
- ◆ ...

# ... Good Program Assessment Takes Lots of Work

## ABET Criterion 4 Continuous Improvement

“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.”

# Program Assessment Systems (PAS) To The Rescue?

## ◆ Commercial PAS

- Taskstream
- LiveText
- AEFIS

## ◆ Homegrown PAS

- ABET Symposium 2015
  - ◆ [Ferri and Whiteman], [Aly]
  - ◆ [Ayers, Fontecchio, and Imhoff]

# How About Learning Management Systems (LMS)?

- ◆ Blackboard
- ◆ Moodle
- ◆ Canvas

# CSNS = LMS + PAS

- ◆ CSNetworks Services (CSNS)
- ◆ Started in 2006 for homework submission
- ◆ A web-base, open-source software system for learning management, program assessment, student administration and advisement

# CSNS Architecture

## Departments

Personnel

Program

Course

Section

Project

## Learning Management

Roster

Site

Assignment

Submission

Attendance

## Program Assessment

Dashboard

Outcome

Measure

Rubric

Journal

MFT

## Student Administration

Grade

Standing

Advisement

## General Tools

Survey

Forum

News

Wiki

Mailing List

File Manager

Security

## Core Services

User

Role

Group

File

Resource

Subscription

# CSNS Demo

◆ YouTube video -

<https://www.youtube.com/watch?v=s7bU2MrhF9I>



# Program Assessment Dashboard

## Program Assessment

## Computer Science Undergraduate Program

Vision Statement

Mission Statement

Educational Objectives

Student Outcomes

Documents and Reports

Other Assessment Artifacts

### Vision Statement

To be a pre-eminent computer science program that prepares students from diverse background productive careers by providing them with a student-centered, practically-focused quality learning experience.

### Mission Statement

To graduate well educated computer scientists who are prepared to meet the challenges of a rapidly changing, increasingly complex world. This will be accomplished through:



- A well-qualified faculty who care about students and their success.
- A dynamic, up-to-date curriculum that has an optimal balance between theory and practice
- Laboratories, computer facilities, and instructional classrooms on par with any computer science program in the nation.
- Unique co-curricular opportunities for students such as participation in student design competitions, professional student organizations, and pre-professional employment.
- Opportunities for undergraduate and graduate students to participate in research and industry design clinic projects.
- Mutually beneficial partnerships with area industry that take advantage of our location in or

# Rubric Functions

- ◆ Rubrics management
- ◆ Rubrics evaluation
- ◆ Result aggregation and display

# Create A Rubric

Rubrics > New Rubric

Name	<input type="text"/>
Description	<p>Format ▾ <b>B</b> <i>I</i> <u>U</u>   ☰ ☷   🔗 ↻</p> <div style="border: 1px solid #ccc; height: 200px;"></div>
Scale 	<input type="text" value="5"/>
Public 	<input type="checkbox"/>
	<input type="button" value="Create"/>

# Rubric Assignment

CS422 - 1

Create Assignment

Rubric ▾

Name

Rubric: Ethics in the Computer Age


Rubric


Ethics in the Computer Age ▾

Evaluators

Instructors  Students

External Evaluators 

Publish Date 

Due Date 

04/13/2016 23:59:59

Create

# Rubric Evaluation

CS422 - 1

Rubric: Ethics in the Computer Age

John Doe

Evaluate




## Ethics in the Computer Age

1	2	3	4	5
<b>Lifelong Learning (SLO 8)</b>				
Very poor and lacking understanding of basic knowledge.	Very basic knowledge base.	Fair amount of knowledge base and shows a basic understanding of theoretical/practical concepts.	Good amount of knowledge base. Good grasp of theoretical/practical foundations.	Outstanding showcase of knowledge and a comprehensive understanding of theoretical/practical foundations.
<b>Global Impact (SLO 9)</b>				
Very poor and lacking understanding of basic knowledge.	Very basic knowledge base.	Fair amount of knowledge base and shows a basic understanding of theoretical/practical concepts.	Good amount of knowledge base. Good grasp of theoretical/practical foundations.	Outstanding showcase of knowledge and a comprehensive understanding of theoretical/practical foundations.
<b>Ethics (SLO 10)</b>				

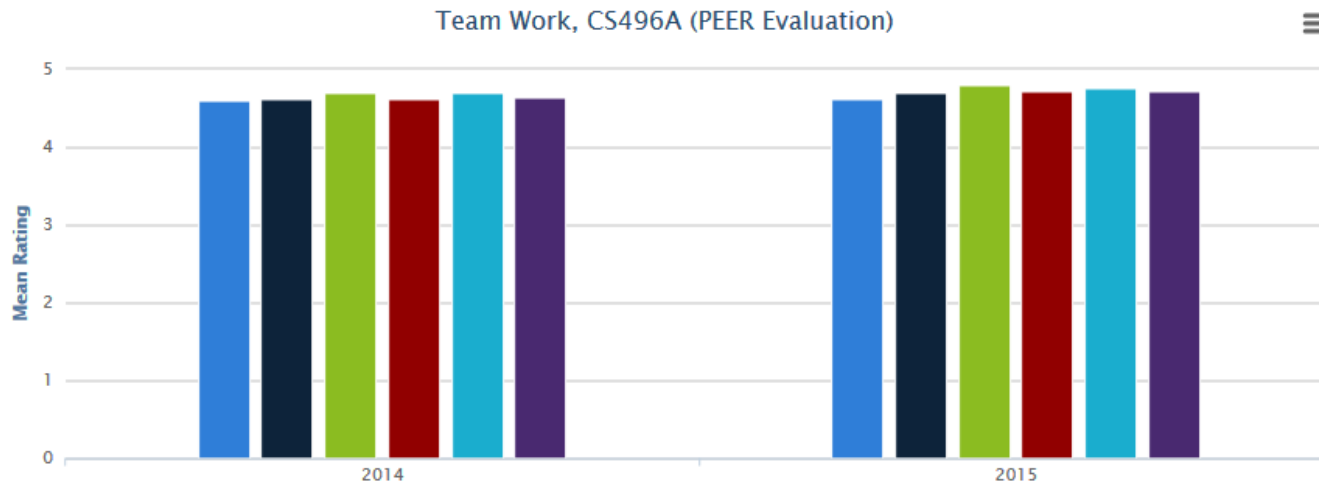
# Rubric Evaluation Results

Rubrics > Team Work > CS496A

From: 2014 To: 2015 Select

Evaluation Type	2014	2015	
INSTRUCTOR	37	0	
PEER	182	258	
EXTERNAL	0	0	

Data Chart



# The CSNS Advantages

- ◆ LMS + PAS
- ◆ Automate many mundane and tedious tasks in assessment
- ◆ Promote *the right way* to do assessment
- ◆ Built by faculty and for faculty
- ◆ Open-Source

# More Information about CSNS

- ◆ CSNS - <http://csns.calstatela.edu/>
- ◆ Source code - <https://github.com/cysun/csns2>