ASSESSING STUDENT LEARNING AT CU BOULDER:

Campus resources for learning outcomes and assessment

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Agenda for Today

- Introductions
- Quick overview of “assessment cycle”
- Current work with Division of Social Sciences
- Timeline for future work with other academic units
- Tracking student learning using technology
- Resources on ODA assessment website
- Other campus resources

ODA Assessment Team

MISSION: The ODA Assessment Team provides leadership and centralized support to CU Boulder in the assessment of student learning and program effectiveness. Through collaboration with campus partners, we facilitate best practices that lead to data-informed decision making to promote student success at CU Boulder.

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Assistant Director for Campus Assessment

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Assessment Analyst

Jessica Keating, Ph.D.
Assessment Analyst

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What is Assessment?

Assessment is an iterative process that collects data and uses the findings to determine next steps toward meeting a program's stated intentions. It is a cycle which allows for continuous improvement.

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Assessment of Student Learning at CU Boulder

COURSE

- Course-Level Outcomes (CLO), e.g., listed on syllabus
- Are students learning what they should *in their class*?

PROGRAM

- Program-Level Outcomes (PLO), e.g., listed in CU catalog
- Are students learning what they should *in their major*?

INSTITUTE

- Institute-Level Outcomes (ILO), e.g. Baccalaureate LO
- Are students learning what they should *upon graduation from CU Boulder*?

How ODA Assessment Team helps with ARPAC (initially focusing on undergrad programs)

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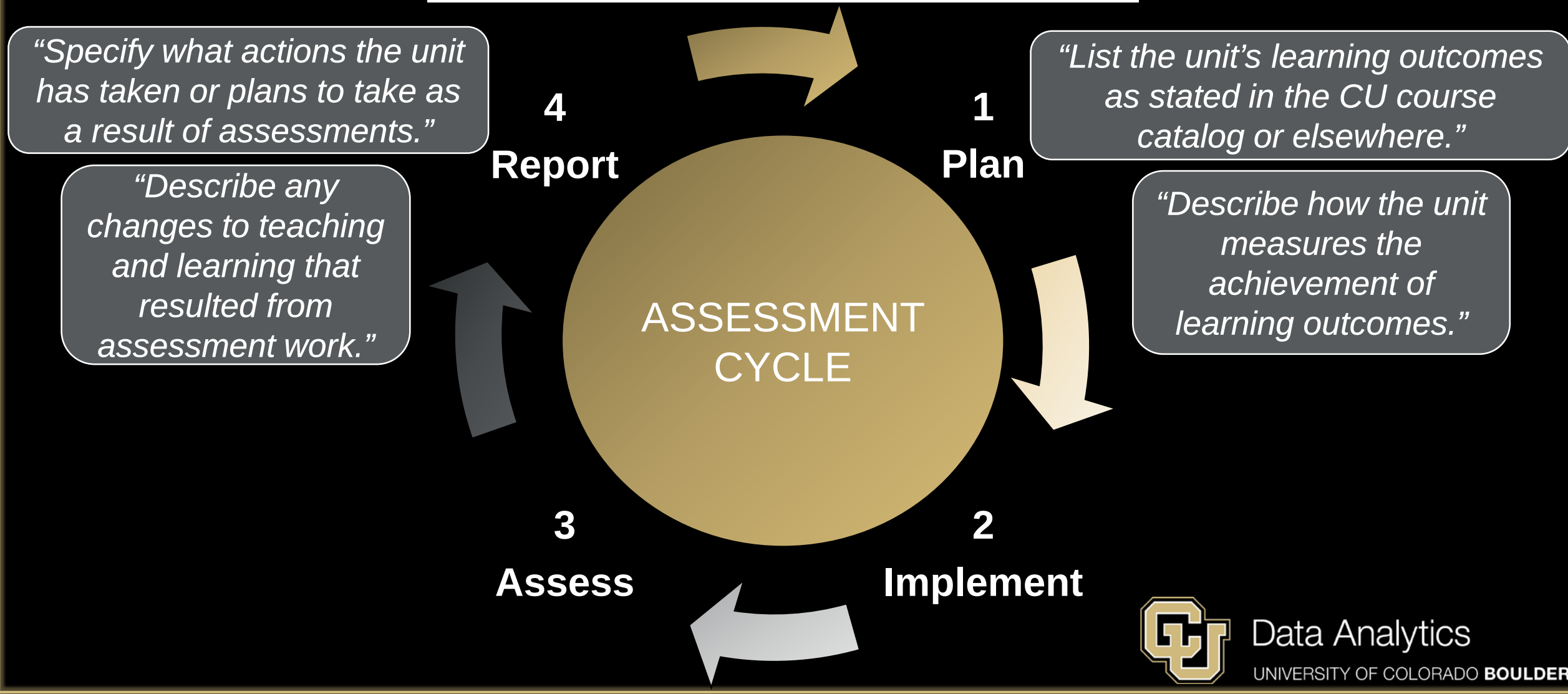
ARPAC Self-Study Assessment Question

Task: Describe the unit's undergraduate and graduate learning outcomes assessment procedures.



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Student Learning Assessment Planning & Reporting

ASSESSMENT PLAN
(BEGINNING OF CYCLE)

- **Learning Outcomes** – What knowledge & skills do students in your program gain?
- **Curriculum Mapping** – In what courses do students learn these outcomes?
- **Assessment Method & Timeline** – How and when will you measure outcomes? E.g., class assignment, survey, etc.
- **Metrics/Targets** – What measures & target values will indicate when outcomes are met?

Implement → Assess

Revise ←

ASSESSMENT REPORT
(END OF CYCLE)

- **Findings** – Report metric values and compare to targets. Where is your program seeing the most/least success in students achieving their learning outcomes?
- **Next Steps** – Based on findings, what changes will you make to improve your program?

2020 ARPAC Assessment Planning/Reporting Timeline (Social Science Units)

- **Initial Assessment Planning**
  - **Fall 2019** (and possibly Spring 2020): Assist with creating Three-Year Student Learning Assessment Plan
  - **Dec 2019:** ARPAC self-study due
- **Assessment Reporting (Three-Year Cycle)**
  - **August 2021, 2022 & 2023**: Annual mini-reports (e.g., findings & next steps)
    - Programs choose reporting timeline
      - At least one outcome each year
      - All outcomes reported by end of three-year cycle
  - **April 2024**: Mid-Cycle ARPAC report due
- **Ongoing ARPAC Assessment Planning & Reporting:**
  - **Fall 2023 – August 2026:** Repeat three-year assessment plan/reporting cycle
  - **December 2026:** Next ARPAC self-study due

ARPAC Assessment Planning/Reporting Timeline by Cohort Year (*TENTATIVE*)

ARPAC Cohort Unit	ARPAC Cohort Year
Social Sciences Units	2020
Professional Schools and CMCI Units	2021
Academic Affairs Units	2022
Arts and Humanities Units	2023
Physical Sciences & Mathematics Units	2024
Engineering and Applied Science Units	2025
Biological & Environmental Sciences Units	2026

Accelerated timeline so assessment plan and first assessment reporting cycle complete by ARPAC self-study.

Same timeline as SS units so assessment plan due by ARPAC self-study and first assessment reporting cycle complete by ARPAC mid-cycle report.

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Looking Ahead:
Tracking Student Learning Using Technology

Many Assessment Management Software (AMS) options, with varying levels of utility and integration:

watermark

campuslabs Data Driven Innovation

AEFIS

Nuventive

Xitracs

AMS can help programs more easily manage their assessment planning & reporting process and allow for better visualizations and insights into their programs' efforts toward student learning.

Integration

CU Boulder's Learning Management Software (LMS)

CANVAS

LMS can help collect data used to measure student learning.

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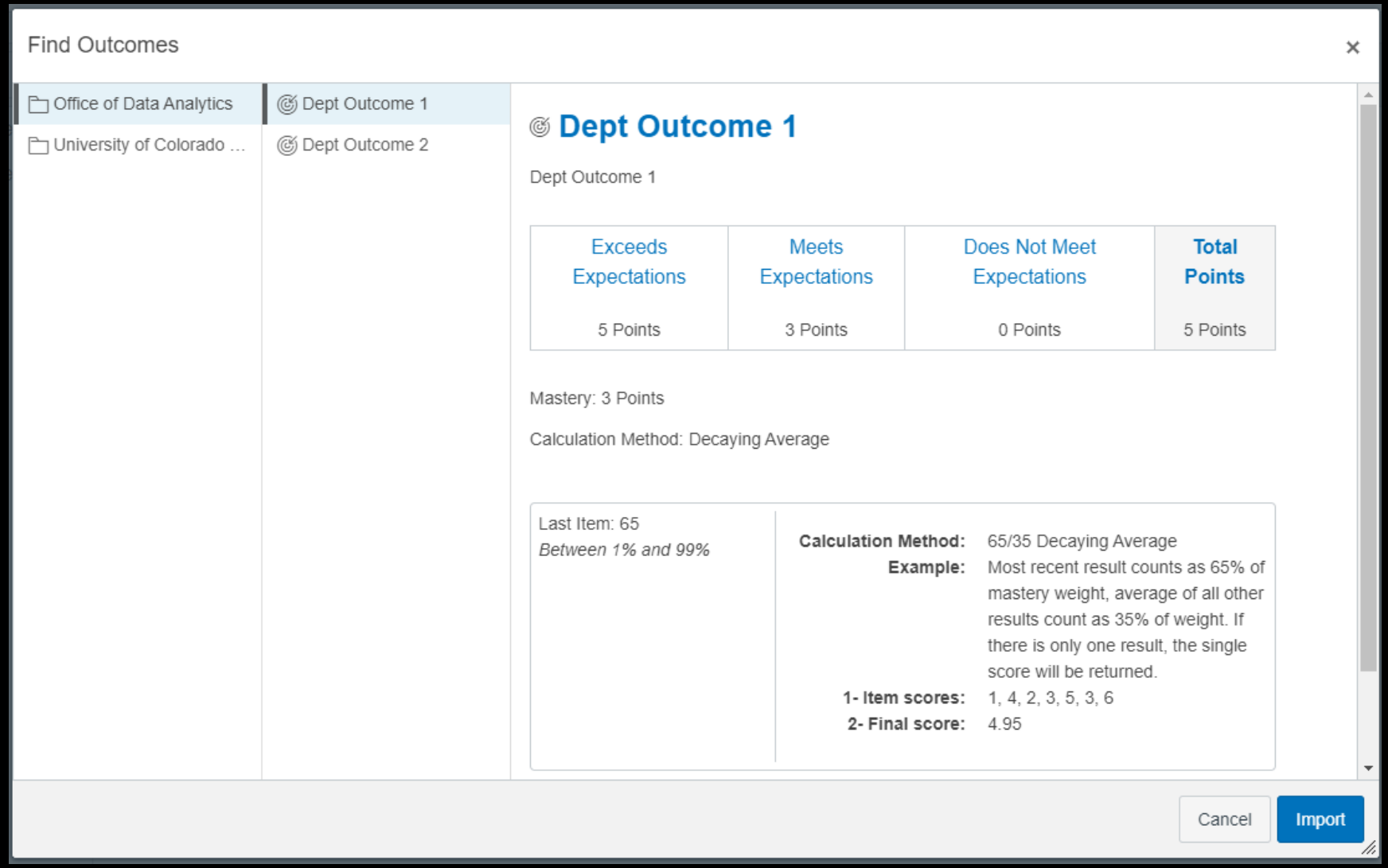
Tracking Student Learning Using Technology: Canvas

- Use the Outcomes tool in Canvas track mastery of program- or course-level learning outcomes
  - Assess Outcomes in rubrics (e.g. for papers, presentations, etc)
  - Associate Outcomes with quiz questions

Tracking Student Learning Using Technology: Canvas



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Tracking Student Learning Using Technology: Canvas

Capstone Project

Capstone Paper

Criteria	Ratings			Pts
Introduction Section Literature review: uses 5 articles, integrates existing literature, describes research question(s)	**20 to >0 pts** **Full Marks**		**0 pts** **No Marks**	20 pts
Methods Section Describes methods	**20 to >0 pts** **Full Marks**		**0 pts** **No Marks**	20 pts
Analyses and Results Section Uses proper analysis; describes results including appropriate statistics and visualizations	**20 to >0 pts** **Full Marks**		**0 pts** **No Marks**	20 pts
Discussion	**20 to >0 pts** **Full Marks**		**0 pts** **No Marks**	20 pts
APA Style	**20 to >0 pts** **Full Marks**		**0 pts** **No Marks**	20 pts
CLO 3 threshold: 3 pts	**5 pts** **Exceeds Expectations**	**3 pts** **Meets Expectations**	**0 pts** **Does Not Meet Expectations**	--
Dept Outcome 3 threshold: 1 pts	**2 pts** **Exceeds Expectations**	**1 pts** **Meets Expectations**	**0 pts** **Does Not Meet Expectations**	--

Total Points: 100

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Tracking Student Learning Using Technology: Canvas

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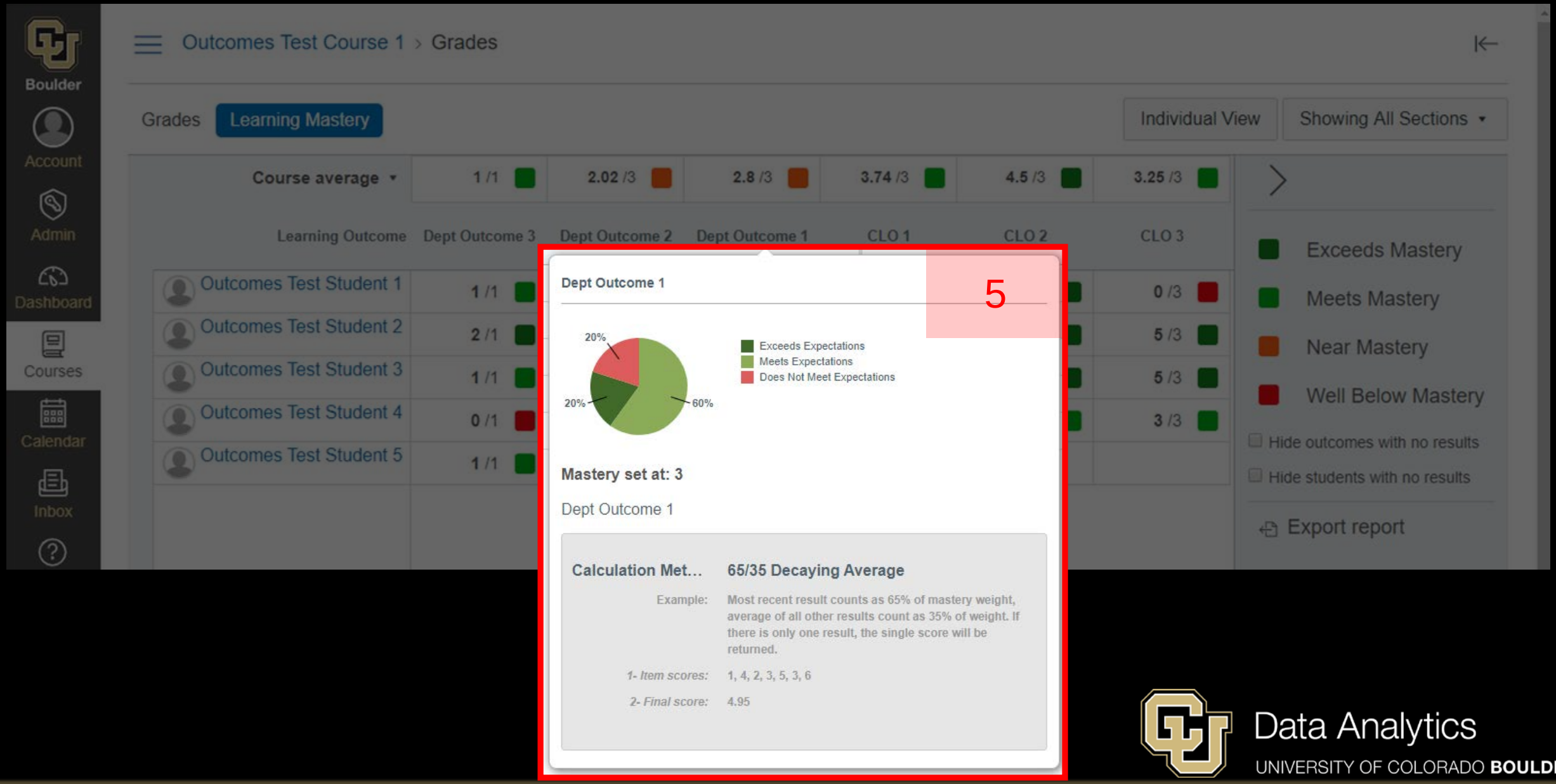

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Canvas Learning Assessment (fake data)

YearMeasured (copy)

2013 2019

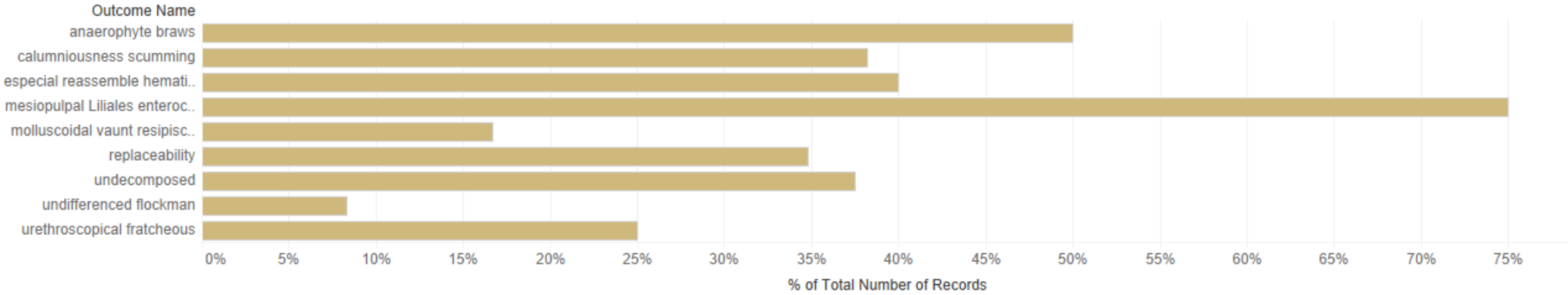
User Pri Major Ld

- [ ] (All)
- [x] Biology
- [ ] Business
- [ ] Chemistry
- [ ] Engineering
- [ ] English
- [ ] Math
- [ ] Psychology

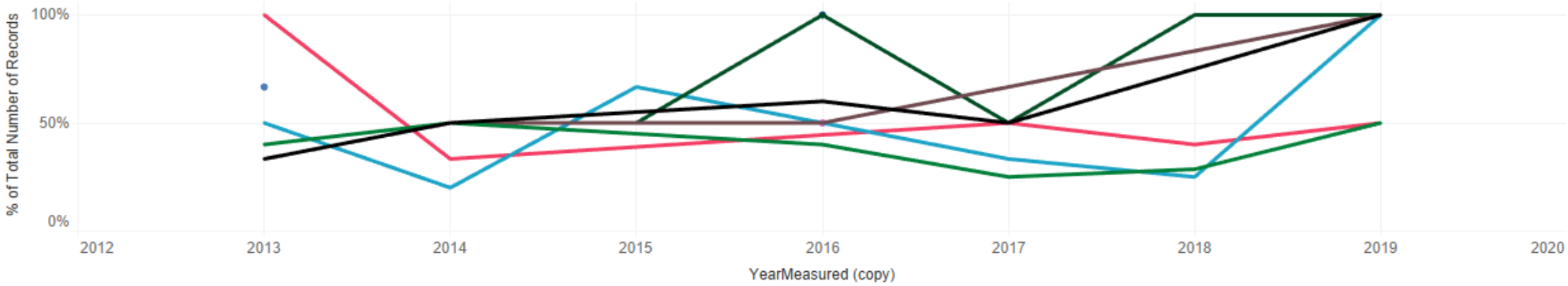
Outcome Name

- [x] (All)
- [x] anaerophyte braws
- [x] ansar perpetuana
- [x] Archichlamydeae dunderheadedness pr…
- [x] cachemic ferricyanogen racemocarbonate
- [x] calumniousness scumming
- [x] Ctenoidei
- [x] especial reassemble hematite
- [x] luteofulvous nantle cookbook
- [x] mesiopulpal Liliales enterocolostomy
- [x] Messiahship mesosoma
- [x] molluscoidal vaunt resipiscence
- [x] physiologize Cryptophagidae piggishly
- [x] replaceability
- [x] shieldboard hollandite
- [x] supratrochlear thecaspore cubicone
- [x] tubeman garble
- [x] undecomposed
- [x] undifferenced flockman
- [x] urethroscopical fratcheous

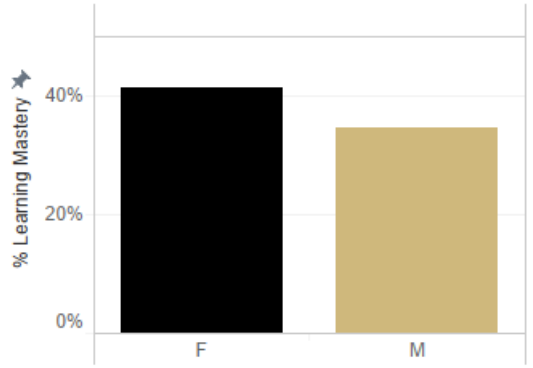
Mastery by Program Learning Outcomes



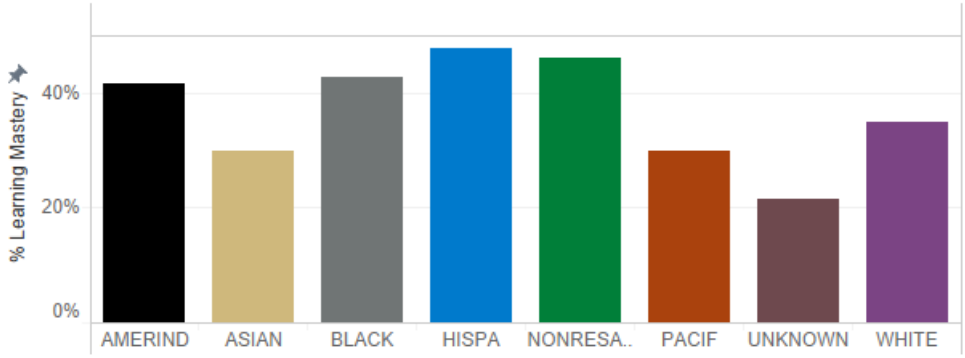
Learning Mastery over Time



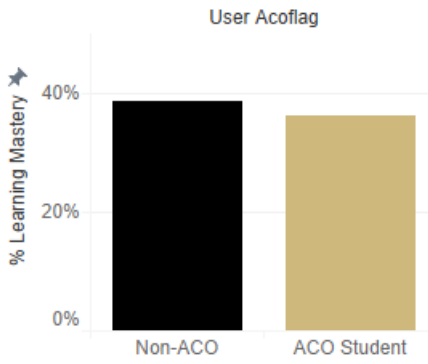
Mastery by Gender



Mastery by Race/Ethnicity



Mastery by ACO Status



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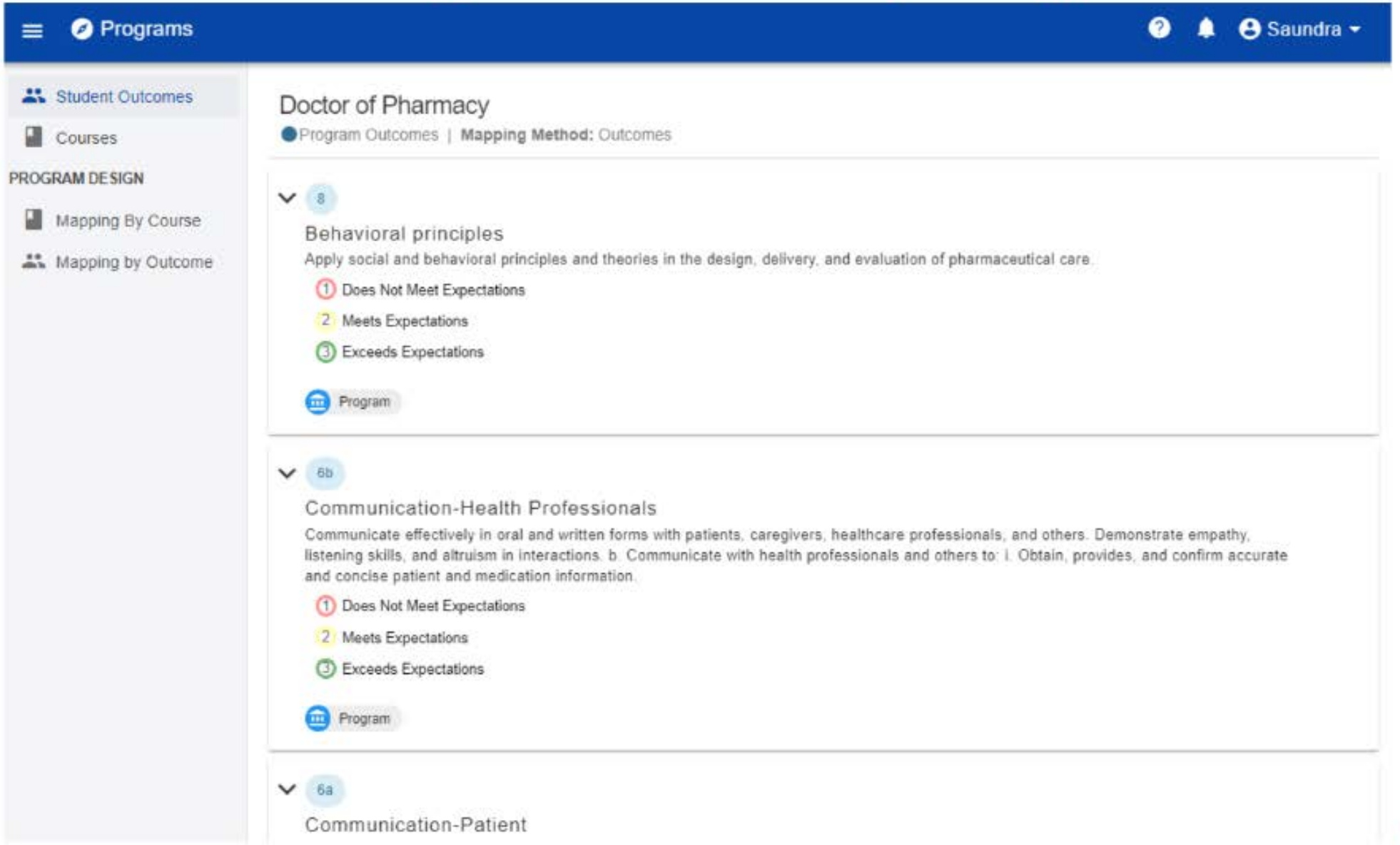
CU Boulder's Learning Management Software (LMS)

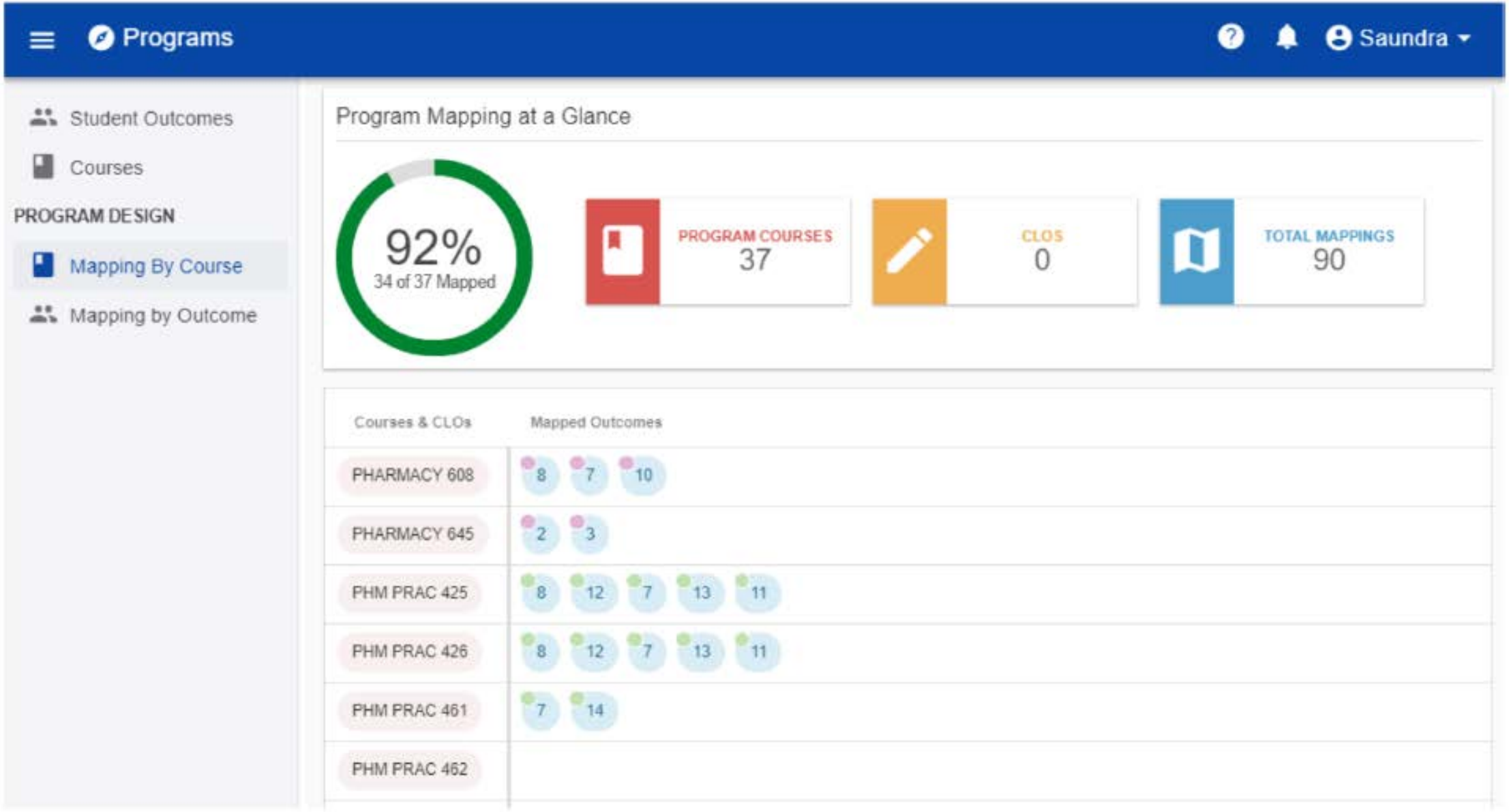
CANVAS

Screenshots for Canvas-AEFIS integration on following pages taken from University of Wisconsin-Madison:
https://assessment.provost.wisc.edu/documents/direct-assessment-with-aefis-and-canvas/

Program Learning Outcomes (PLO) in AEFIS

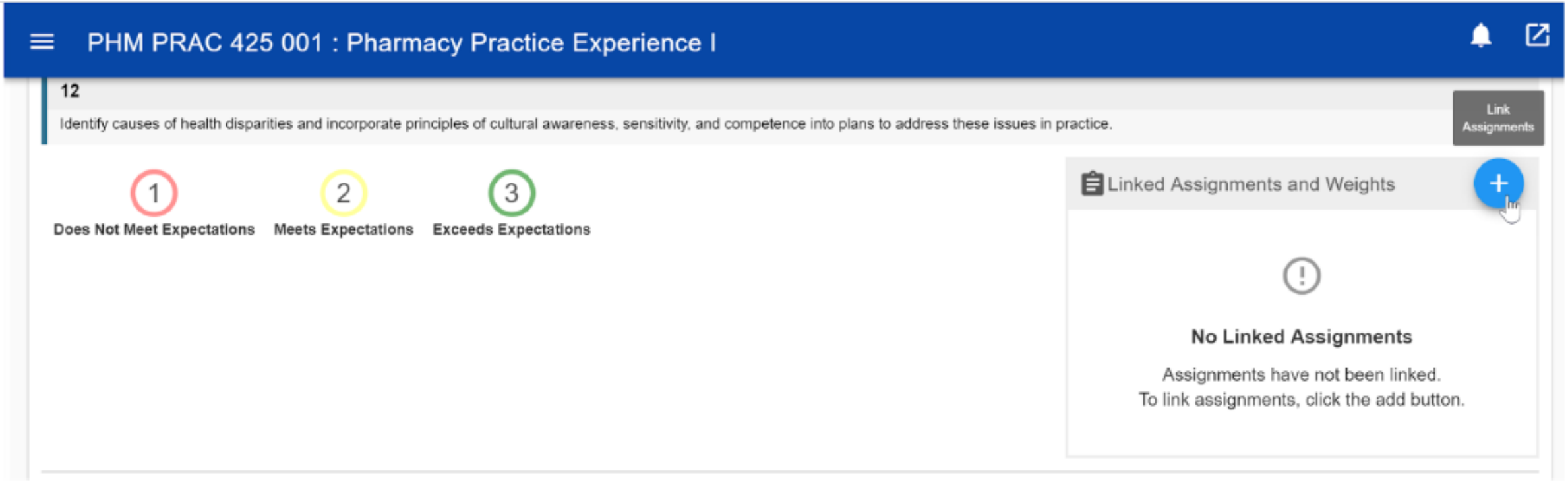


Mapping by Course to PLO in AEFIS

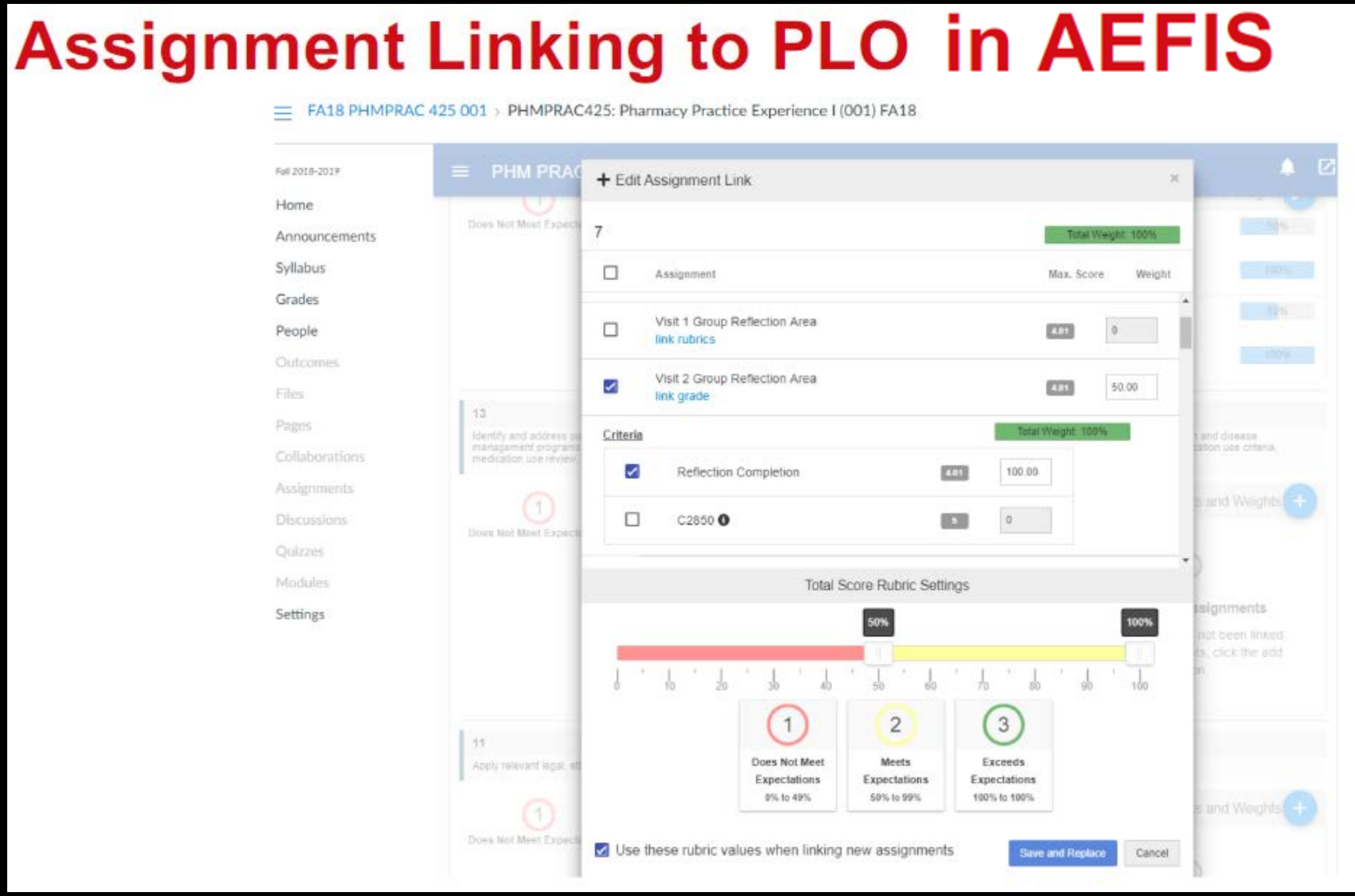


Assignment Linking in AEFIS

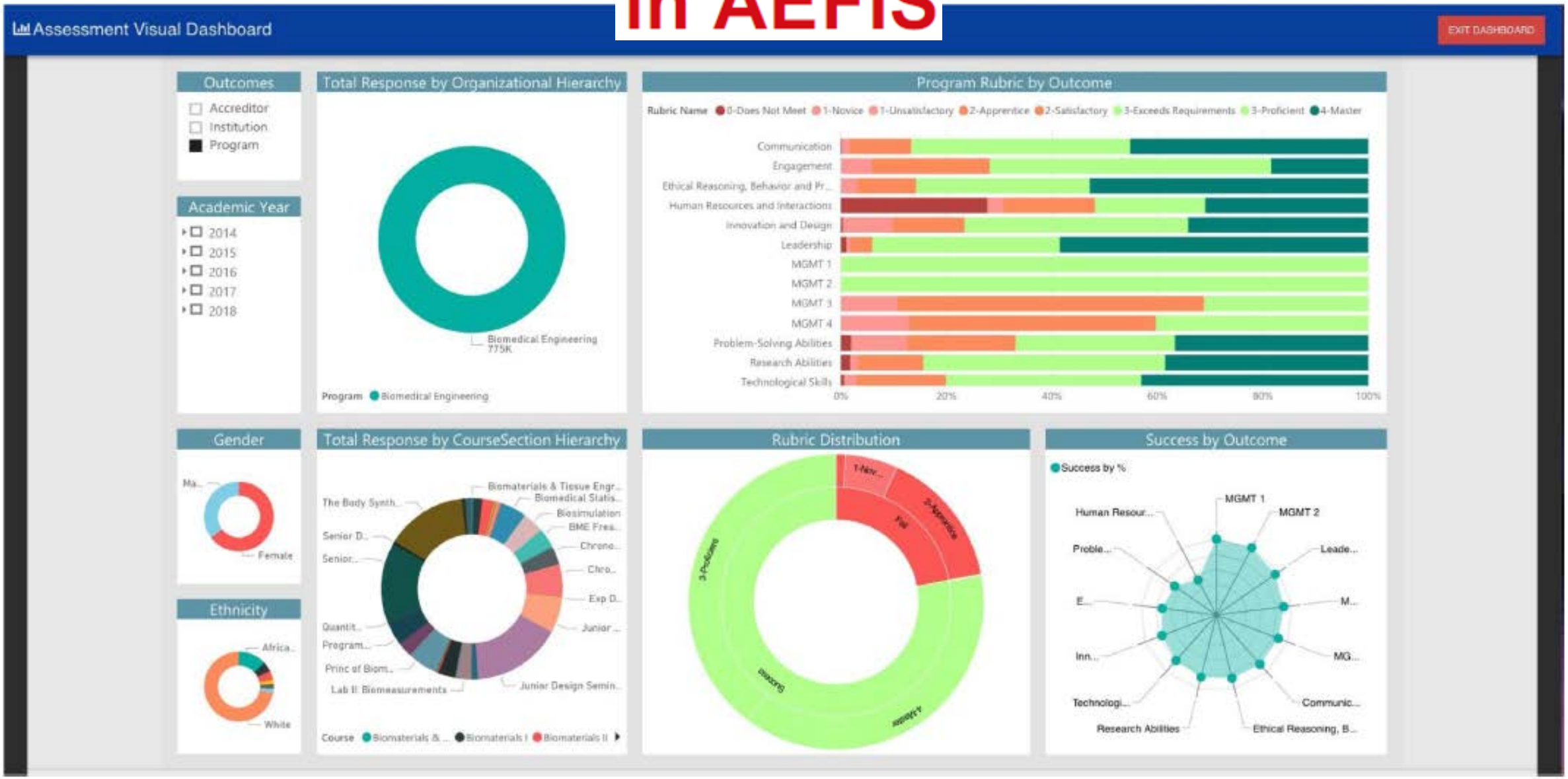
Assignments must be created and published in Canvas before they will appear in AEFIS.



Assignment Linking to PLO in AEFIS

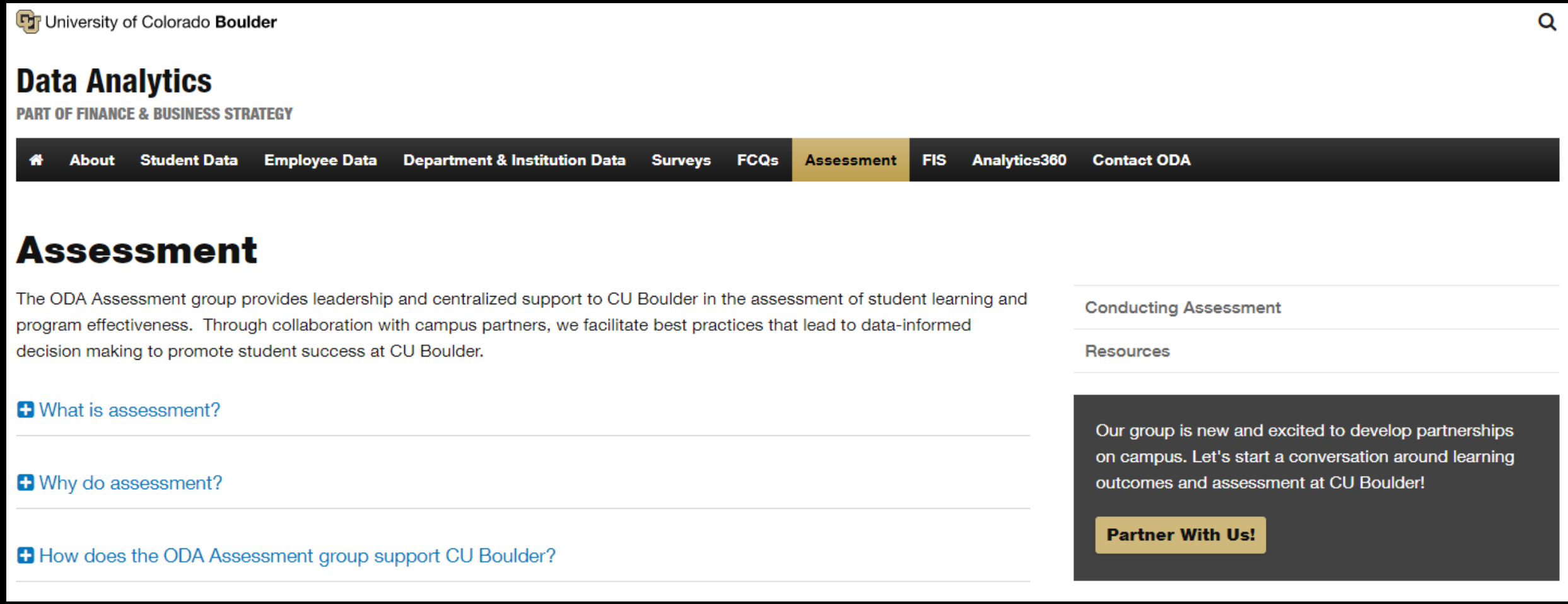


Future Visual Dashboard 1st Quarter 2019 in AEFIS



ODA Assessment Website

Assessment Website: www.colorado.edu/oda/assessment



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Other Resources for Learning Assessment

Internal Resources:

- Center for Assessment, Design, Research, & Evaluation (CADRE)
- Center for Teaching & Learning (CTL)
- Center for Integrated Research, Teaching, & Learning (CIRTL)
- Departmental Action Team (DAT) Project
- Faculty Teaching Excellence Program (FTEP)
- LinkedIn Learning via MyCUInfo portal (formerly Lynda.com)
- Science Education Initiative (SEI)
- Student Affairs Planning & Assessment
- Teaching Quality Framework (TQF)
- Transforming Education, Supporting Teaching & Learning Excellence (TRESTLE)

External Resources:

- AAC&U VALUE Rubrics
- Association for the Assessment of Learning in Higher Education (AALHE)
- National Institute for Learning Outcomes Assessment (NILOA)
- Student Assessment of their Learning Gains (SALG)

Questions/Comments?

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