

# CLEP & DSST

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Colorado Department of Higher Education  
November 4, 2016

# Agenda

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- ▶ Today's Student
- ▶ CLEP and DSST Overview
- ▶ Test Development
- ▶ Scoring and Standard Setting

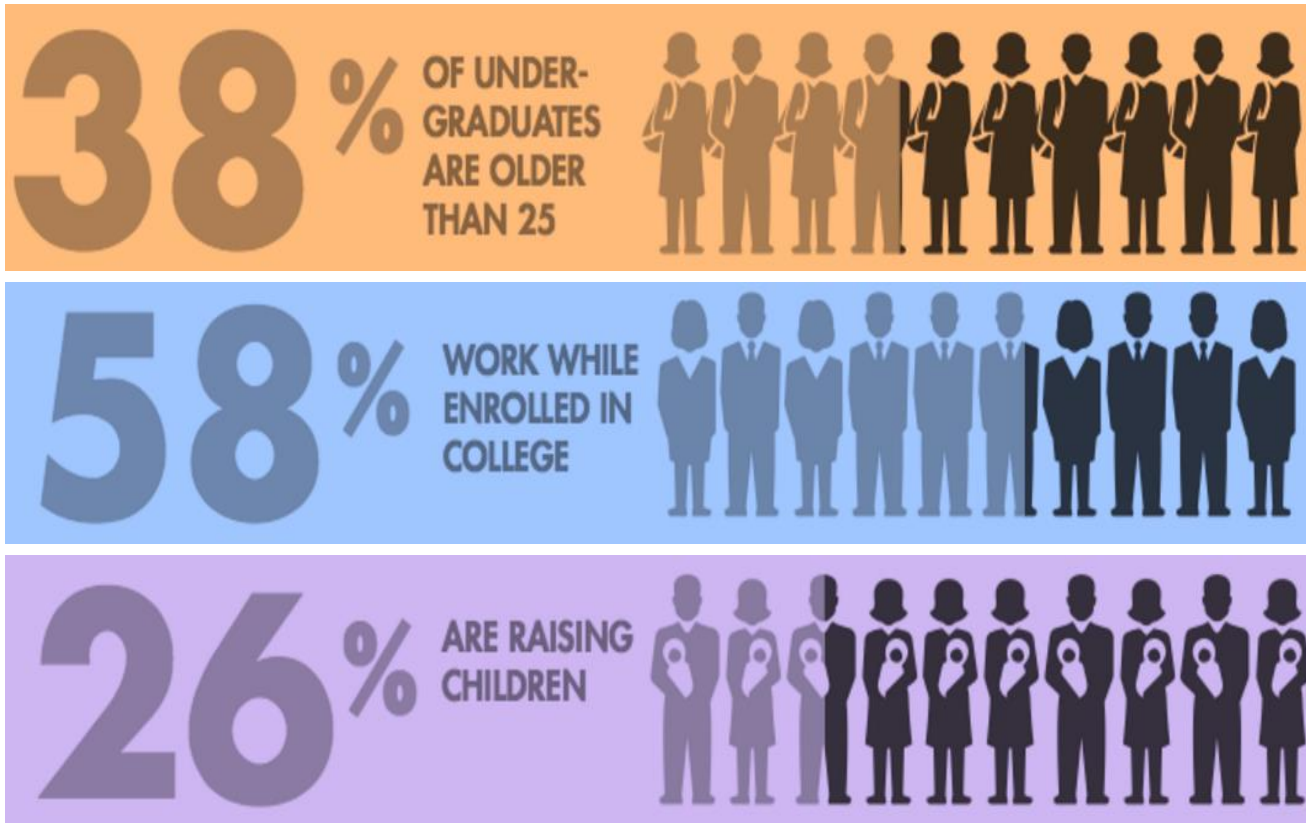
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# Today's Student

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# Today's students are older and juggling more than just education

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Source: Lumina Foundation – *Today's Student*

# Today's students are paying their own bills and struggling financially

38% of students with additional financial, work and family obligations leave school in their first year

**NEARLY HALF OF FIRST-YEAR STUDENTS LIVE AT OR BELOW POVERTY, MAKING FINANCES A HUGE CONCERN.**

 **47%**

FINANCIALLY INDEPENDENT;  
NOT SUPPORTED BY PARENTS

 **42%**

LIVE NEAR OR BELOW  
POVERTY

 **25%**

BACHELOR'S RECIPIENTS  
GRADUATE WITH AT LEAST  
\$24,000 IN DEBT

Source: Lumina Foundation – *Today's Student*

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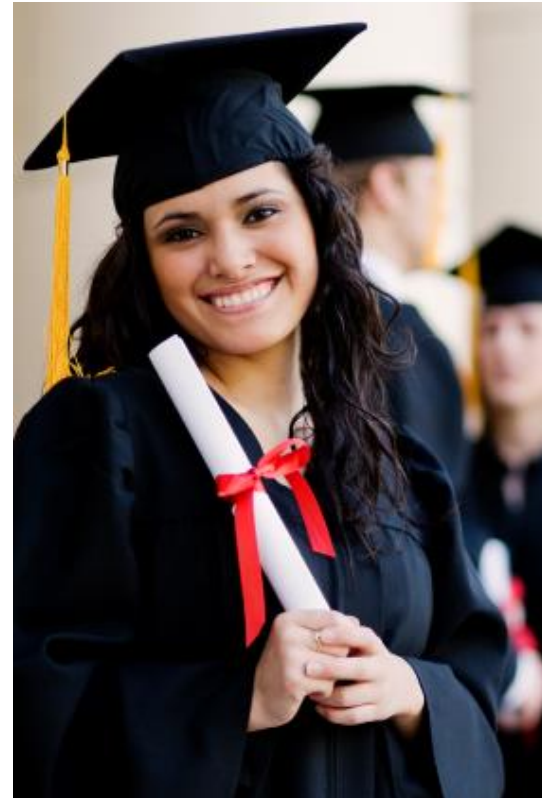
# CLEP and DSST Overview

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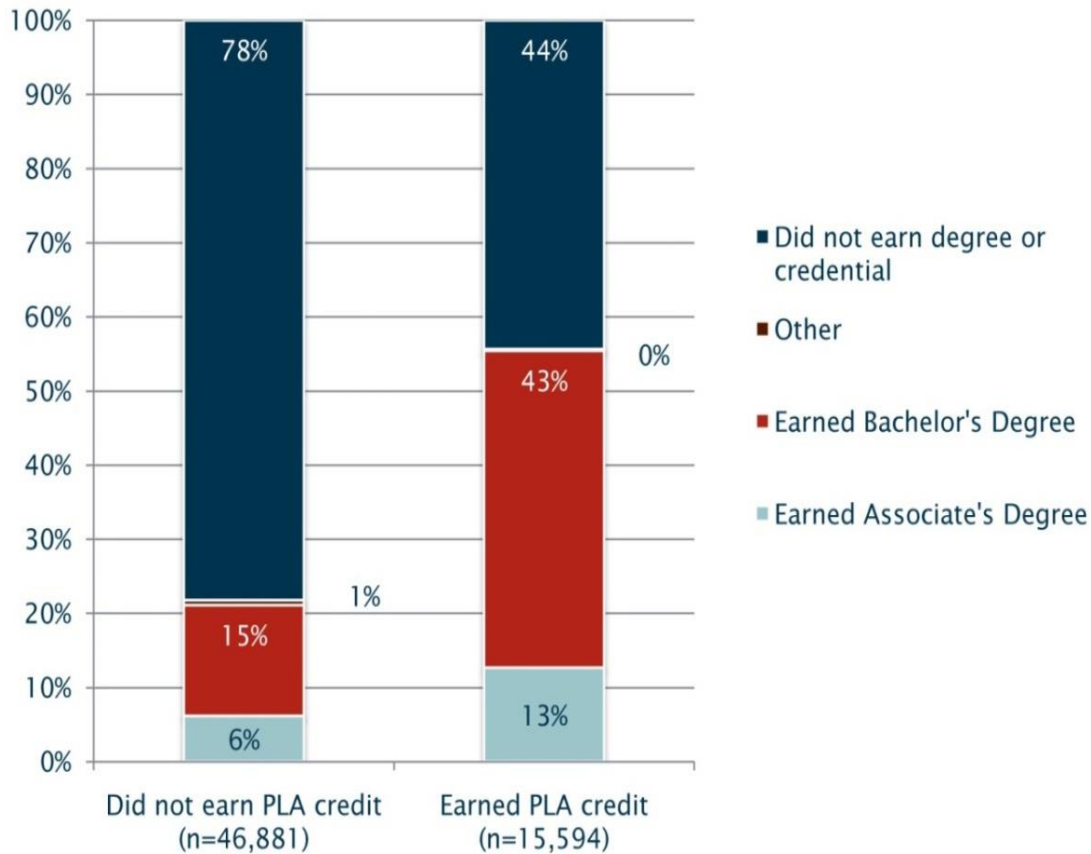
# Why CLEP and DSST?

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- ▶ CLEP and DSST are Prior Learning Assessment (PLA) programs that allow college students, adult learners, veterans and active duty service members to save time, save money and graduate sooner.
- ▶ Research has shown that passing a CLEP or DSST exam instills confidence and accelerates degree completion rates.
- ▶ All exams are rigorously developed, and faculty experts participate in each step of the development process.
- ▶ Institutions have granted credit for CLEP and DSST since the 1970s.



# PLA effect on graduation rates



Persistence

Time to Degree Completion

Degree Attainment

Source: *Fueling the Race to Postsecondary Success*. CAEL, March 2010.



# Overview of CLEP and DSST Programs

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- ▶ Recommended for credit by the American Council on Education (ACE)
- ▶ Computer-based exams that provide real-time scores
- ▶ Offer a flexible environment to fulfill general education requirements
- ▶ Allow students the ability to leverage skills they already have
- ▶ Give students a broader path to degree completion
- ▶ Support active duty service members through the Fully Funded initiative

	CLEP	DSST
Exam titles offered	33	34
Cost per exam	\$80	\$80
2- and 4-year institutions administering and granting credit	2,900	1,900
Exams administered annually	177,000	55,000
Developed by	The College Board	Prometric

# CLEP exam titles

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## History and Social Sciences

- American Government
- History of the United States I
- History of the United States II
- Human Growth and Development
- Introduction to Educational Psychology
- Principles of Macroeconomics
- Principles of Microeconomics
- Introduction Psychology
- Introductory Sociology
- Social Sciences and History
- Western Civilization I
- Western Civilization II

## Business

- Information Systems
- Principles of Management
- Financial Accounting
- Introductory Business Law
- Principles of Marketing

## Composition and Literature

- American Literature
- *Analyzing and Interpreting Literature*
- *College Composition*
- *College Composition Modular*
- English Literature
- Humanities

## Science and Mathematics

- Calculus
- *College Algebra*
- Precalculus
- College Mathematics
- Biology
- Chemistry
- Natural Sciences

## World Languages

- French Language
- German Language
- *Spanish Language*

# DSST exam titles

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## **Business**

- Business Ethics and Society
- Business Mathematics
- Human Resource Management
- Introduction to Business
- Introduction to Computing
- Management Information Systems
- Money and Banking
- Organizational Behavior
- Personal Finance
- Principles of Finance
- Principle of Supervision

## **Humanities**

- Ethics in America
- Introduction to World Religions
- Principles of Public Speaking
- Art of the Western World

## **Math**

- Fundamentals of College Algebra
- Principles of Statistics

## **Physical Science**

- Astronomy
- Health & Human Development
- Environment and Humanity
- Principles of Physical Science I

## **History and Social Sciences**

- A History of the Vietnam War
- The Civil War and Reconstruction
- Criminal Justice
- Foundations of Education
- Fundamentals of Counseling
- General Anthropology
- Human/Cultural Geography
- Introduction to Law Enforcement
- Lifespan Developmental Psychology
- History of the Soviet Union
- Substance Abuse

## **Technology**

- Fundamentals of Cybersecurity
- Technical Writing

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# Test Development

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# Faculty subject matter experts are key component of CLEP test development

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- ▶ 29 standing test development committees
- ▶ All committee members are college faculty who teach relevant courses
- ▶ Faculty are drawn from
  - ▶ All regions of the U.S.
  - ▶ Four-year and two-year institutions
  - ▶ Public, private, and proprietary institutions
- ▶ Committee members usually serve for 4 years
- ▶ Participate in test design, item development and review, form development, standard setting, and other activities

# CLEP test development is a rigorous, multi-step process

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- ▶ Interpret results of curriculum surveys
- ▶ Define content specifications for the exam
- ▶ Write, review, and approve exam questions for pretesting
- ▶ Pretest questions in live CLEP exams
- ▶ Complete DIF analyses and other analyses of pretest data
- ▶ Review and approve operational test forms
- ▶ Conduct a standard setting to set credit-granting scores

# Faculty subject matter experts are key component of DSST test development

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- ▶ Multiple committees for each test development task for each test refresh, formed every 3 years – 20-25 members total for each test
- ▶ Committee members participate in test design, item development and review, form development, standard setting, and/or other activities
- ▶ All committee members are college faculty who teach relevant courses
- ▶ Faculty are drawn from
  - ▶ All regions of the U.S.
  - ▶ Four-year and two-year institutions
  - ▶ Public, private, and proprietary institutions
- ▶ Many committee members serve for multiple 3-year refresh cycles

# DSST test development is a rigorous, multi-step process

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- ▶ Develop curricular outline and identify widely used texts for references
- ▶ Define content specifications for the exam
- ▶ Write, edit, review, and approve exam questions
- ▶ Pretesting of items to begin with 2017 refresh cycle when reuse of well-performing items can begin; to date, ongoing analyses and monitoring of item performance; swap out of up to 10% of items if statistically problematic and any impact on candidates after the fact is addressed
- ▶ Assemble, review and approve operational test forms
- ▶ Conduct a standard setting to set credit-granting scores (% of items that must be answered correctly in order to pass with the 400 scaled score)



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# Scoring and Standard Setting

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# Reported CLEP and DSST scores are scaled scores

	CLEP	DSST
Scale score range	20–80	200—500
ACE recommended credit-granting score (C-level score)	50	400

## ▶ Deriving a scaled score

- ▶ Calculate “raw score” (number of questions answered correctly)
- ▶ Convert raw score to “scaled score” by statistical process

## ▶ Benefits of a scaled score

- ▶ Maintains consistency of scores over time by adjusting for slight differences in difficulty between test forms
- ▶ Student score not dependent on specific form or performance of other testers

# Standard setting: Credit-granting scores for CLEP and DSST

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- ▶ Web-based standard setting conducted for each exam
- ▶ Panel of faculty judges participate
- ▶ Two cut scores (C-level and B-level) established through standard setting process
- ▶ Process ensures exam standard remains aligned to college course standard
- ▶ If there is a change to existing standard, C-level cut score remains constant (though raw score corresponding to that score may change)

# The Psychometric Side: A little technical information

Barbara S. Plake, Ph.D

Distinguished University Professor

University of Nebraska-Lincoln

# Topics to be covered

- What is Standard Setting?
- What are “scaled scores” and how are they to be interpreted?
- How are scores from different test forms made comparable?

# What is Standard Setting?

- It is a process by which the “Standard” (or passing score or cut score) is set; setting the standard; “standard setting”
- How is this different from what is done with classroom tests?
  - Higher stakes (score on this test has more impact than the results from one classroom test or quiz)
  - Need to use a methodology that meets psychometric standards (Standards for Educational and Psychological Testing, 2014; AERA, APA, NCME)

# Methodology for Standard Setting

- Norm-referenced approach: give test to a representative sample of students and determine the average score of “C-level students” (not favored as it isn’t tied to content of the exam and is dependent on sample)
- Criterion-referenced approach: panelists are recruited and trained to provide estimates of how C-Level students would likely perform on the test questions (considered technically sound if carried out appropriately)

# Why Isn't 70% correct an appropriate standard for these examinations?

- 70% (or any other percentage) is considered arbitrary
  - 70% of what??
  - If the examination has easy questions, this is a low standard
  - If the examination has hard questions, this is a very high standard



# What are “scaled scores” and how are they interpreted?

- Raw (number right) scores on the examinations are hard to interpret; don't know how many questions, how hard are the questions, how students performed on the test overall
- By converting the raw scores to scale scores, interpretation is enhanced.
  - Some common scaled scores: IQ, SAT, ACT

# What is the conversion from raw to scaled scores?

- Raw scores are converted using a mathematical formula so that they all have the same mean and variation (standard deviation)
- If you know the mean and standard deviation, you can interpret the relative performance of the student's score
- There is often a raw score to scaled score conversion table available (in a technical manual)

# How are scores from different test forms made comparable?

- Statistical methodology called “equating” is used; there are many methods, depending on the type of test
- Basically, a link is established between the test forms
  - Sometimes there are common items across the test forms; these common items form the link between the forms

# Equating of test forms

- The statistical process adjusts the overall test performance based for the performance on the common items and how the examinee did on the non-common items to establish equivalent scores across all the test forms.
- These equivalent scores are then converted to scaled scores; the scores are considered to have the same meaning regardless of which test form the examinee took

# How does this information affect your task today?

- As faculty in the classes being discussed, your task is to consider if performance on the relevant CLEP or DSST test might warrant credit for your course.
- Most important considerations are how well the content of the test reflects the content of the course and the level of expectation for your students

# Considerations that might not affect your tasks today

- These tests are developed using sound test development practices that reflect that state of the art.
- The basic process used to set the cut scores (standard setting) is technically sound and meets current technical standards.
- The methodology for creating scaled scores is technically appropriate.

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# Questions?

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# Contact Us

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