



# Preventing Early Attrition

Simplifying and Supporting Critical Student Decisions  
from Application through the First Semester



April 20<sup>th</sup>, 2016

# Oklahoma City Community College

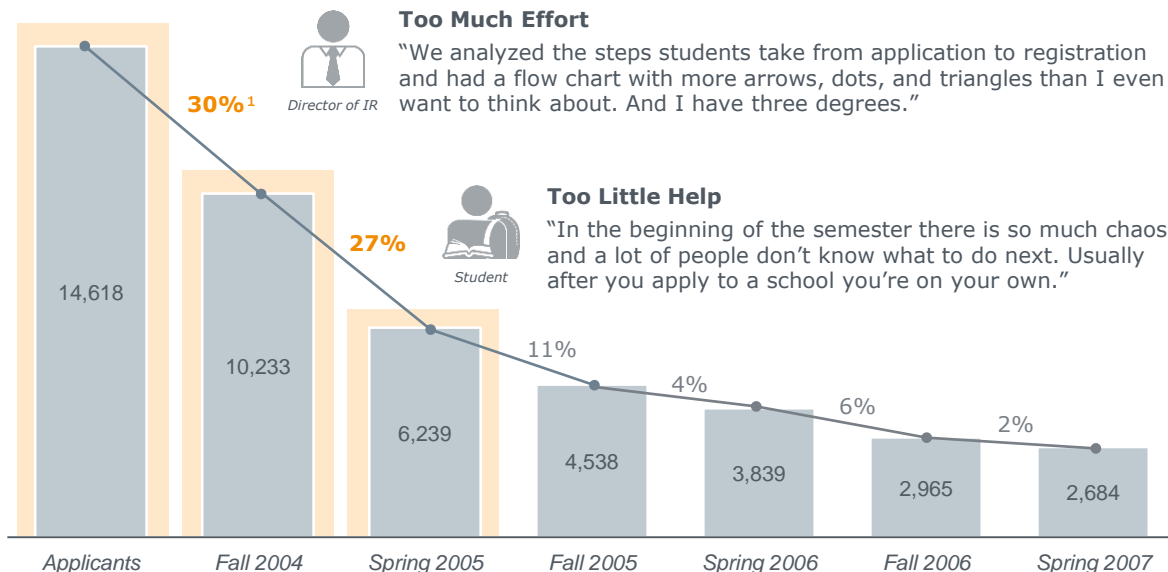
Oklahoma City, OK

# All Too Common Story

## College Measures Highest Rates of Attrition in Students' First Few Months

### Massive Loss All Before First Spring

*Enrollment Figures at a Mid-Atlantic Community College*



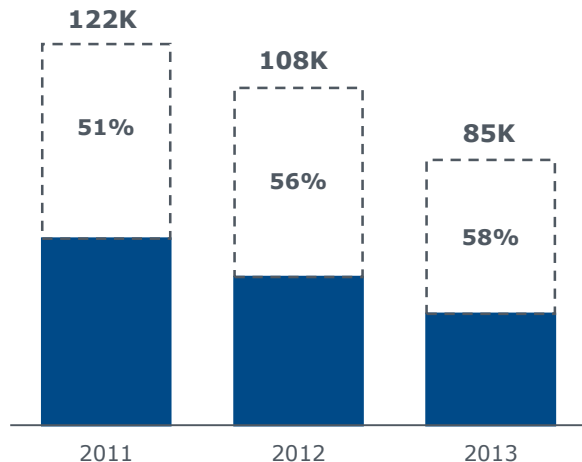
1) Figures represent calculation of percent of total applicant pool lost between the two time periods.

# A National Phenomenon

## Applicant Conversion Rates Worsen as More At-Risk Students Enter College

### Smaller Pieces of a Shrinking Pie

*Average Attrition Rates across Fall Applicants<sup>1</sup>*



### Factors Exacerbating 'Melt'

*Profile of Incoming Two-Year College Students*

**60%** Community college students placed into a remedial course in 2008, compared to 41% in 2003-2004

**72%** First-time community college students completing a financial aid application in 2013, compared to 42% in 2007

**49%** Non-traditional age community college students in 2015, compared to 45% in 2011

Source: "Fast Facts", Association of American Community Colleges, 2015, 2011; "Community College FAQs," Community College Research Center (accessed March 2015); National Center for Education Statistics; Thomas Bailey, "Challenge and Opportunity: Rethinking the Role and Function of Developmental Education in Community College," New Directions for Community Colleges, Spring 2009; Thomas D. Snyder, "Digest of Education Statistics 2010", U.S. Department of Education, NCES2011-015 (accessed: March 2015); EAB interviews and analysis.

1) n=156 Two-year colleges reporting application data

# From Good to Great

## Current Efforts to Improve Intake Useful, But Ultimately Insufficient

### Where We've Invested

### Incremental Advances

### But Still Much Left to Do



**Express  
Registration Day**



*Reminds public about  
opportunity to enroll*



**Incentivize earlier  
application submissions**



**Customer Service  
Staff Training**



*Avoids confrontation  
between students, staff*



**Reduce amount of effort  
needed to complete intake**



**Added Channels  
of Communication**



*Acknowledges needs  
of incoming Millennials*



**Nudge students to best  
communication option**



**One-Stop Student  
Services Shops**



*Makes navigating  
campus easy for visitors*



**Reduce number of steps  
needed to complete intake**

# Learning By Doing



## Forum Researchers Gather Student Experiences of Intake Processes

### Back to School (Secret) Shopping

*CCEF Fall 2014 Enrollment Pain Point Visits*



22 member community college campuses visited during peak registration for Fall 2014

### Adopting the Student Perspective

*Guiding Principles for the Research Team*



#### Assume Nothing

Follow campus signage and staff instructions to navigate intake as new student would



11 states visited in total  
(Note: Only partially influenced by their scenic locations)



#### Consider the Outliers

Document experience of several student archetypes to capture nuances in intake practices

150+

Total number of observation hours invested in Enrollment Pain Point Audit Whitepaper



#### Aim for Enrollment

Complete as many enrollment steps as possible over the course of a single campus visit

# Four Key Findings

## Major Flaws in Current Practice

1

*Self-Service  
Intake  
Doesn't Work*



- Delays during most unexpected times
- Websites lead to more questions than answers
- College terminology difficult to interpret
- Staff assistance comes from all over campus

2

*Financial  
Support  
Incomplete*



- Applicants do not complete FAFSA form
- Verification catches students by surprise
- Local and federal benefits go unused
- Students accept loans without knowing costs

3

*Academic  
Decisions Made  
at Random*



- Students select courses at random
- Time constraints force haphazard goal selection
- Course registration happens in a vacuum
- Students can't commit to 15-credit courseload

4

*Life Factors  
Often Disrupt  
Completion Goals*



- Students don't access on-campus services
- Course withdrawal occurs anonymously
- Mid-semester dropouts lose all progress made

# Guiding Students to the Right Choice

## Choice Architecture Theory Highly Applicable to the Intake Process

### Government and Private Industry Makes Preferred Option the Default

### But Higher Education Misses Chance to Encourage Completion Behavior

#### Framing

"Medium" most popular coffee size, even when actual size manipulated



#### Not Enough Credits

Students take "full load" of 12 credits, assume they'll graduate on time



#### Path of Least Resistance

Consumers more likely to purchase food easily reached at eye level



#### Unguided Course Selection

Students pick courses based on flawed criteria, delay graduation requirements



#### Burdening Bad Choice

Motorcyclists must pass extra test and prove insurance to forgo helmet



#### No-Fault Withdrawals

Students able to drop out or deviate from plans with easy transaction



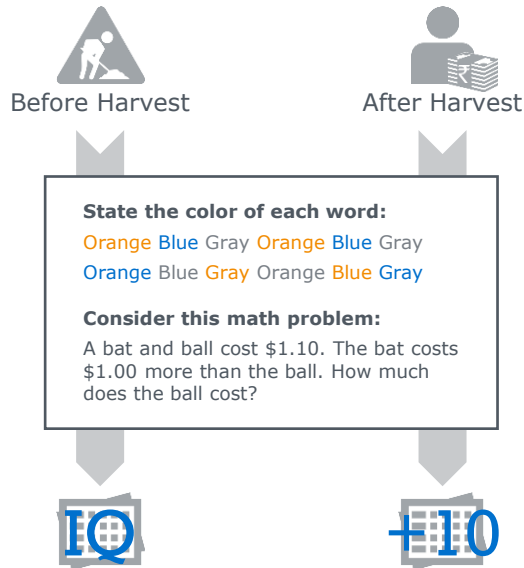


# Understanding Cognitive Depletion

## Behavioral Economics Explains Why We Make Poor Choices Under Pressure

### Lessons from Around the World

*World Bank 2015 World Development Report*



### Findings Hold Stateside

“When your bandwidth is loaded... you’re just more likely to not notice things, you’re more likely to not resist things you ought to resist, you’re more likely to forget things, [and] you’re going to have less patience.”

*Eldar Shafir, Professor of Psychology  
Princeton University*

Source: World Bank, *World Development Report 2015: Mind, Society, and Behavior*, 2015; Raven’s Progressive Matrices, Standard Progressive Matrices (Standard, Sets A–E); Emily Badger, “How Poverty Taxes the Brain,” *City Lab*, Aug. 2013; EAB interviews and analysis.

# How Can We Optimize New Student Intake?

The Destination Remains Clearer than the Path for Most

	Today		Future
<b>Pace</b>	Stop and Start	➡	Streamlined
<b>Language</b>	Confusing Jargon	➡	Easily Understood
<b>Content</b>	Generic	➡	Personalized
<b>Locus of Support</b>	Fragmented	➡	Comprehensive
<b>Financial Assistance</b>	Opt-In	➡	Intrusive
<b>Academic Decisions</b>	Random	➡	Guided
<b>Student Services</b>	One-Size-Fits-All	➡	Aligned with Needs

# Preventing Early Attrition



1

## Making Self-Service Work



- Immediate ID Provision
- Sequential Student Web Portal
- Jargon Reduction Audit
- Registration Case Manager

2

## Supporting Optimal Financial Decisions



- Onsite FAFSA Completion Lab
- SMS Verification Updates
- FAFSA Benefits Eligibility Screens
- Pre-Loan Debt Management Workshops

3

## Guiding Intentional Academic Decisions



- Meta-Major Scheduling Menus
- Completion Mapping Course
- Multi-Term Registration
- Full-Time Summer Scholarships

4

## Minimizing First-Semester Drop-out



- Personalized Resource Nudges
- Cross-Trained Add-Drop Coordinators
- Compressed Mini-Semesters

# Making Self-Service Work

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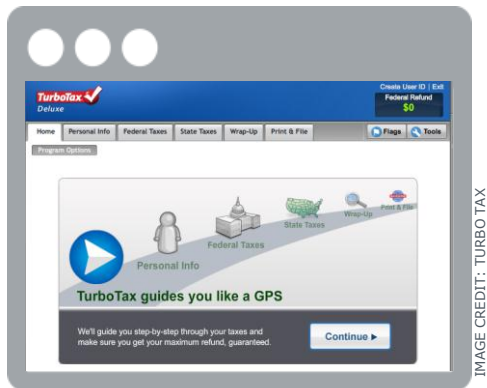
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# The New Normal



## Today's Consumer Self-Serves in All Aspects of Life

### From Taxes to Medical Diagnoses



Food delivery



Real estate



Self-diagnosis

### College Research Often Done Online

*Surveys Reveal Shift Among HS Students*



High school students using the Internet to [research colleges](#)<sup>1</sup>



High school juniors wishing to [submit online applications](#)<sup>2</sup>



Age students prefer live support over self-service<sup>3</sup>

Source: Lee Raine, "College Searching Online," Pew Research Center, 2005; Noel-Levitz, "Navigating toward e-recruitment: Ten revelations about interacting with college-bound high school students," 2006; Matthew Dixon, Nick Toman, and Rick Delisi, "The Effortless Experience: Conquering the New Battleground for Customer Loyalty," Corporate Executive Board, 2013; EAB interviews and analysis.

1) n = 1,100 persons ages 12-17

2) n = 1,000 high school juniors

3) n = 879 customers

# But Intake Not Easy Alone

Students Face Significant Challenges Trying to Self-Navigate

## Primary Obstacles Impeding New Students from Self-Service

*Lessons from Adopting the Student Perspective*



**Unexplained Delays** slow movement from step to step



**Generic Information** given to students with diverse needs



**Confusing Terminology** makes intake even more intimidating



**Countless Transfers** between departments to answer inquiries

# Making Self-Service Work

## Administrative Redesigns Boost Throughput from Application to Enrollment



### Streamlined Admissions

#### *Immediate ID Provision*

- From notoriously long wait times to instant notification
- Case Study: Laredo Community College (TX)

### Understandable Language

#### *Jargon Reduction Audits*

- From confusing terminology to clearly understood online content
- Case Study: Travelocity



### Personalized Information

#### *Sequential Student Web Portal*

- From generic calls for action to custom prompts and updates
- Case study: Harper College (IL)

### Reduced Transfers

#### *Registration Case Managers*

- From run around campus to true one-stop experience
- Case study: Rogue Community College (OR)



# Stopping Students at Step One

Delay in Receipt of Student ID Adds Extra Time and Steps

## Even Short Admissions Delay Has Negative Effects



*24-48 Hour  
Wait Period*



**Halts Progress:** Cannot take placement exams without a student ID number



**Damages Confidence:** Students expect immediate acceptance to open-access college and may discontinue enrollment



**Requires Rescheduling:** Unanticipated delay interferes with time commitments, forcing new travel arrangements

**90%**

Colleges profiled in CCEF Enrollment Pain Point Visits with 24-48 hour minimum waits to receive student ID numbers after application submission



# Immediate ID Provision



## Laredo Community College Sends ID Numbers Within Minutes, Not Days



*In-person  
applicant*

### Paper Application

Recruiters encourage students to complete college applications during on-site visits and community events

### Student ID

Student application information immediately entered into SIS on site; SIS automatically generates student ID

### Next Steps

Student may proceed through rest of enrollment process



*Online  
applicant*

### Online Application

Homegrown online application, separate from SIS, developed in 2011-2012

### Temporary ID

Student application confirmed immediately and temporary ID automatically generated by college's application system

### Next Steps

Student may proceed through rest of enrollment process with temporary ID and acceptance letter will later provide student ID

**1**

Minutes new applicants wait for student ID number after submitting application

**2.5%**

Applications with discrepancies that required follow-up in Fall 2014



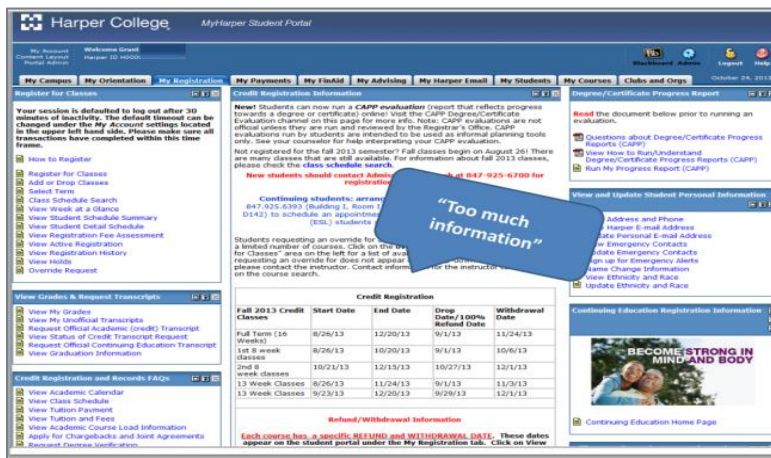
Laredo Community College

# Online Resources Not Always Easier

Littered Websites Easy to Access, But Quick to Confuse

## Information-Heavy Portal Overwhelming

Harper College's Comprehensive Web Portal Led to Student Confusion

Harper College MyHarper Student Portal

My Account | My Orientation | My Registration | My Payments | My Financial Aid | My Advising | My Harper Email | My Students | My Courses | Clubs and Orgs

Register for Classes

Your session is defaulted to log out after 30 minutes of inactivity. The default timeout can be changed under the My Account settings located in the upper left hand side. Please make sure all transactions have completed within this time frame.

How to Register

- Register for Classes
- Add or Drop Classes
- Select Term
- Class Schedule Search
- View Week at a Glance
- View Student Schedule Summary
- View Student Detail Schedule
- View Registration Fee Assessment
- View Active Registration
- View Registration History
- View Holds
- Override Request

Credit Registration and Records FAQs

- View My Grades
- View My Unofficial Transcript
- Request Official Academic Record(s) Transcript
- View Status of Course Transcript Request
- Request Official Continuing Education Transcript
- View Graduation Information

Credit Registration

Fall 2013 Credit Classes	Start Date	End Date	Drop Date/100% Refund Date	Withdrawal Date
Full Term (16 Weeks)	8/26/13	12/20/13	9/1/13	11/24/13
1st 8 week classes	8/26/13	10/20/13	9/1/13	10/6/13
2nd 8 week classes	10/21/13	12/15/13	10/27/13	11/17/13
13 Week Classes	8/26/13	11/24/13	9/1/13	11/13/13
13 Week Classes	9/23/13	12/20/13	9/29/13	12/17/13

Refund/Withdrawal Information

Each course has a specific REFUND and WITHDRAWAL DATE. These dates appear on the student portal under the My Registration area. Click on View

Too much information

- **Origin:** Developed in 2009 as part of institutional goal to strengthen online presence
- **Heavy Investment:** College spent \$400,000 to build web portal and solicited feedback from staff and students
- **Content Overload:** Website filled with resources (links, pages, posts, feeds, photos, videos, etc.) mostly irrelevant for new students

10 Categorical tabs to navigate site

50+ Duplicate links to same information

11% Student users rated the portal as 'easy to use'

IMAGE CREDIT: HARPER COLLEGE

# Tailor-Made Webspace

## Harper College's Sequential Student Web Portal

### Self-Service Easier with Personalized Portal

*Harper College's New Web Portal Eases Access to Information*



- **Redesign:** Harper's Project Discover prompted overhaul of myHarper website in 2014
- **Calls for Relevancy:** Student surveys and focus groups revealed desire for personalized information during onboarding and registration
- **Providing Tailored Results:** New sequential web portal provides information based only on the students' status

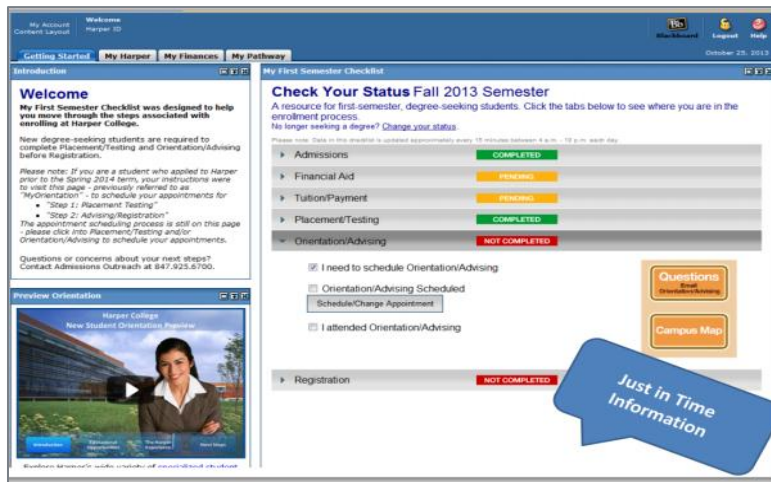


IMAGE CREDIT: HARPER COLLEGE

3

Simplified categorical tabs provide timely and relevant links

15

Minutes between automatic updates of portal content

↓ 12.8%

Decrease in call volume since introduction of myHarper 2.0

# Do You Speak Higher Ed?

## Students Unfamiliar with College-Specific Jargon

### Seemingly Foreign Language

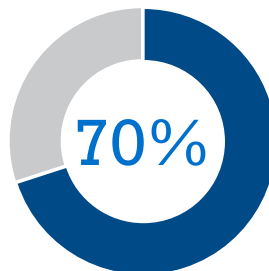
*Common Higher Education Terminology*



Prerequisite	Course Sequence
FAFSA	Registrar
Credit Hours	Liberal Arts
Syllabus	Distribution
Semester	Developmental
Course Catalog	Disbursement
Bursar	Program of Study

### Jargon Abundant on Student Portals

*Community College Journal Study of Accessibility and Usability of College Websites*



Students surveyed who were confused by higher education terms on institutional websites<sup>1</sup>

“We realized that we were explaining things from the point of view of the college, but new students don’t know that language yet.”

*Dr. Joyce Romano, Vice President Student Affairs  
Valencia College*

Source: William Erickson, Sharon Trerirse, et al. “The Accessibility and Usability of College Websites: Is your Website Presenting Barriers to Potential Students?” *Community College Journal of Research and Practice*, 2013; EAB interviews and analysis.

1) n=30

# Jargon Reduction Audit



## Translating Student-Facing Material to Student-Friendly Language



### Simplifying Content Reduces Call Volume



In 2001, measured spike in call and email volume for FAQs answered online



Gunning-Fog Index calculates reading level required to read online content



Removed jargon, used active voice, and simplified language used on website

↓ 5%

Drop in Travelocity helpline call volume after website improvement



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

### Translating Financial Aid Language

**Before:** The Carolina Computing Initiative ensures that students have access to high-quality and affordable technology. Through CCI, all students are required to own a laptop computer, and grants are available to help eligible students purchase their laptops.

*Gunning Fog Index Score: 17.2*



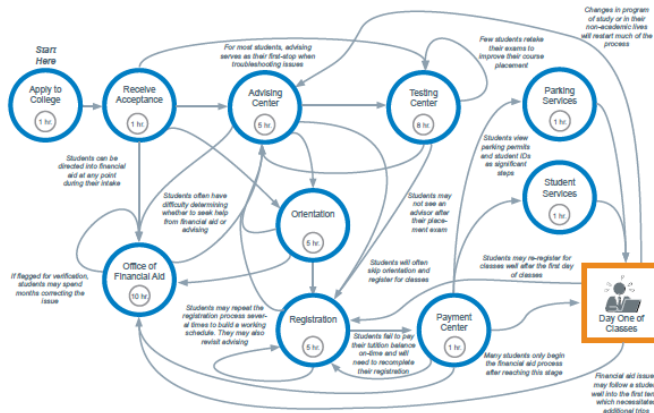
**After:** UNC requires you to have a laptop computer. If you can't afford one, grants are available.

*Gunning Fog Index Score: 10.7*

# Choose Your Metaphor

## Students Directed Between Multiple Offices to Complete Enrollment

### Chutes and Ladders, Spaghetti, or Ping Pong?



15

Average number of stops to student services offices per campus visit across 20+ CCEF Enrollment Pain Point Visits



**Exerts Unnecessary Effort**



**Feels Confused, Frustrated**



**Drops Out of Pipeline**



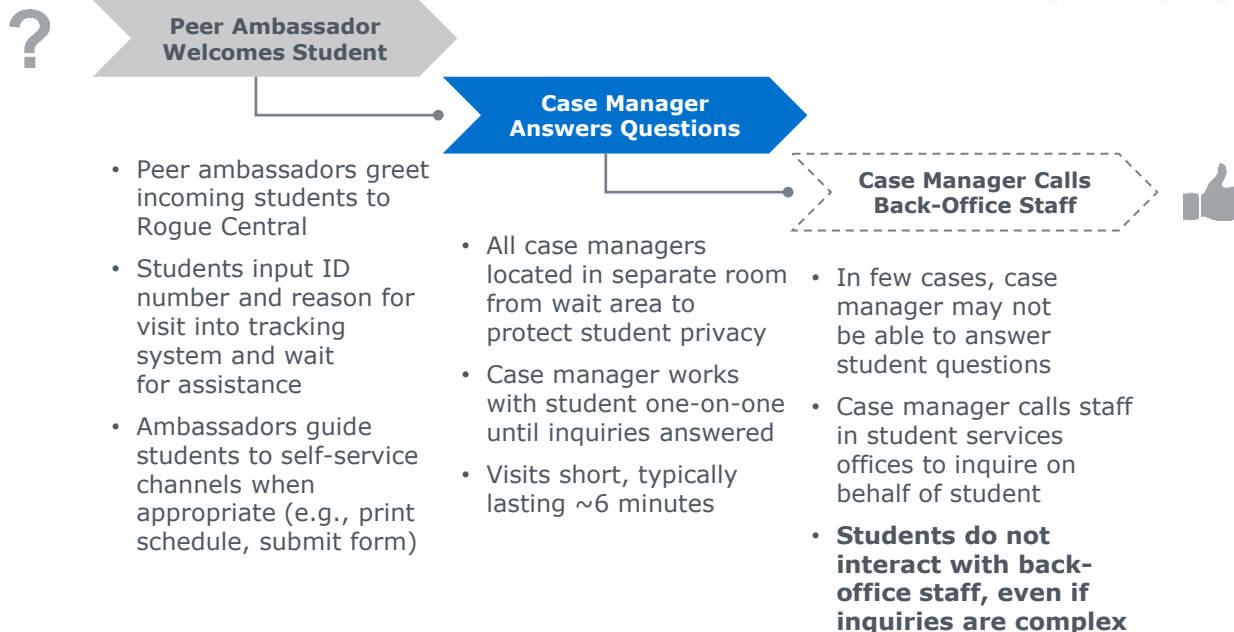
“A student gets handed off from one building to another building and then back again. It’s a bit like a ping pong match. We truly need to make the enrollment process more seamless.”

*Allison Martin, Director of Institutional Effectiveness  
Bossier Parish Community College*

# From One Building to One Person

## Rogue Community College's Enrollment Case Manager Model

### Central Case Manager Key to Minimizing New Student Effort

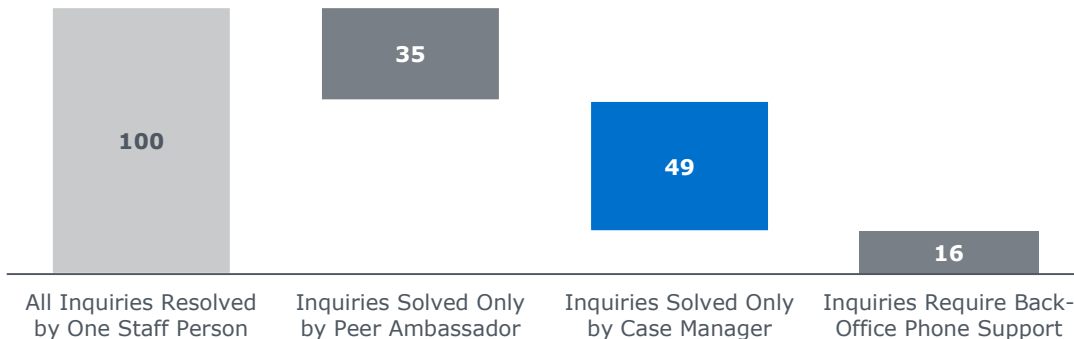


# One and Done

## Case Manager Model Eliminates Cross-Department Student Transfers

### 100 Students Walk Into Rogue Central...

*Average Intervention Experience for New Students at Rogue Community College*



#### Empowering Peer Ambassadors

- 12-14 Peer Ambassadors
- Work 20 hours/week in paid positions
- Current students at Rogue Community College

#### Cross-Training Case Managers

- Must have at least an A.A. degree and some customer service background
- Undergo 1 year of immersive cross-training



# Walking in the Debtor's Shoes

## Poverty Simulation Game Could Personalize Debt Lessons at Scale

### Now or Later?

*Students Struggle to Prioritize Future Wellbeing*



#### **Limited Cognitive Horizon:**

Inability to envision the needs and desires of their future selves



**Time Inconsistency:** Inability to prioritize future needs against current needs



"If you look at someone who is financially unstable—someone who can't even pay their bills from month to month—and say that they need to be better about planning for the future, they're going to look at you and tell you to get lost."

*Elijah Herr,  
Assistant Director of Financial Aid  
Portland Community College*

### ~~SPENT~~

*Gamification Meets Debt Management Training*

- **Public Education:** Online game created by Urban Ministries of Durham (UMD) to educate players about the difficult decisions impoverished and/or homeless people must make to survive
- **Tough Trade-offs:** PlaySpent.org asks... "Your mom needs crucial medication but doesn't have the \$100 she needs to buy it. What do you want to do?"
- **Opportunities for Personalization:**
  - Input expected annual income
  - Include loan repayment duties
  - Estimate daily costs of living
  - Present unexpected expenses

# Guiding Intentional Academic Decisions

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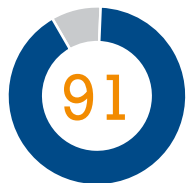
# Merely Scratching the Surface

Intake Conversations Suffer When Advisors Have Limited Time Per Student

## Much to Cover in 15 Minutes

*Idealized Agenda for Intake Advising Appointment*

**Advising Considered Universally Important...**



Percent of CCSSE respondents who report that academic advising and planning is an important service<sup>1</sup>



- ? What major do you want to pursue?
- ? What are your goals in coming to college? Why are you here?
- ? What are you good at? What are your weaknesses?
- ? What do you care more about—job satisfaction, salary, free time, etc.?
- ? What other responsibilities do you have outside of school?

**...But Few Students Get the Attention They Need**



Percent of SENSE respondents who agree that an advisor helped them set and plan for academic goals



1) n= 414,646; n=73,502

# Haste Makes Waste



## Poor Academic Decisions at Intake Have Consequences Down the Road



### Short-Sighted Course Choices

*Selected at Random*

- Average course catalogue contains 300+ pages
- Total freedom of choice now results in excess credits later

### Last-Minute Scheduling

*Determined Just Ahead of Semester*

- Registration for upcoming semester opens during finals period and last day of class for current semester
- Fragmented planning sessions result in erratic path to graduation



### Peer-Pressured Goal Setting

*Influenced by Social Network*

- Students have limited information about careers outside of personal connections
- Poorly chosen goals lead to major switches and attrition

### Opting for Lightest Load

*Based on Personal Feasibility*

- Full-time enrollment (15 credits per semester) not possible for many non-traditional students
- Part-time students less likely to graduate than full-time peers



# Guiding Intentional Academic Decisions

## Structured Supports Set Foundation for On-Time Graduation



### Intentional Course Choices

#### *Meta Major Scheduling Menus*

- From random decision to guided, constrained selection
- Case Study: Queensborough Community College (NY)

### Pacing Time to Completion

#### *Multi-Term Registration*

- From last-minute hustle to thought-out academic plan
- Case study: Cleveland State University (OH)



### Informed Goal Setting

#### *Completion Mapping Course*

- From peer pressure impulse to self-exploration and reflection
- Case study: Cuyamaca College (CA)

### Right-Fit Course Load

#### *Full-Time Summer Scholarships*

- From making the low-cost choice to making the right choice
- Case study: Indiana State University (IN)



# Good Intentions, Counterproductive Results

## DOE Inadvertently Prompts Random Program Selection

### No Major? No Aid

*New Regulation Bars Undecided Students from Federal Financial Aid*



#### U.S. Department of Education

34 CFR 668.32 – Student Eligibility

*"A student is eligible to receive Title IV, HEA program assistance if the student...is a regular student enrolled, or **accepted for enrollment, in an eligible program at an eligible institution.**"*

### Quick Decisions Easy, But Costly



"Just pick one. My sister was here last week and spent an hour reading all the programs they have here. I'm not like that—if I *have* to pick a major, I just pick an easy one and switch later."

*Community College Student*

**20+** Average excess credits earned pursuing a 60-credit A.A./A.S.

**\$7.7B** Total annual cost to students for excess credits

**\$11.5B** Total annual cost to U.S. taxpayers for excess credits

Source: "Student Eligibility," Department of Education Federal Student Aid Office, <http://ifap.ed.gov/qaahome/qaassessments/studentelig.html>, Accessed Feb. 2015; "The Game Changers: Are states implementing the best reforms to get more college graduates?," Complete College America, Fall 2013; EAB interviews and analysis.

## Colleges Condense Program Offerings to Ease Major Selection Decision

### 200+ Programs Grouped into a Handful of Choices

*Sample of Valencia College's Meta Major Options*

Business	STEM	Health Science	Public Safety
Accounting Technology A.S.	Computer Information Technology A.S.	Cardiovascular Technology A.S.	Public Administration A.A.
Economics A.A.	Marine Biology A.A.	Nursing A.S.	Paralegal Studies A.S.
Human Resources Operations Certificate	Laser and Photonics Technician Certificate	Magnetic Resonance Imaging Certificate	Homeland Security Specialist Certificate
Medical Office Administration A.S.	Network Engineering Technology A.S.	Health Information Technology A.S.	Fire Science Technology A.S.
Office Support Certificate	Advanced Electronics Technician Certificate	Emergency Medical Technology Certificate	Correctional Officer Career Certificate

### Meta Majors Catch on across Community Colleges Nationally

- CUNY Lehman College
- Valencia College
- Palm Beach State College
- Ivy Technical Community College
- Queensborough Community College
- Monroe Community College
- Macomb Community College

Source: "New Student Experience," Valencia College, <http://valenciacollege.edu/academic-affairs/new-student-experience/meta-majors.cfm>, Accessed Feb. 2015; EAB interviews and analysis.

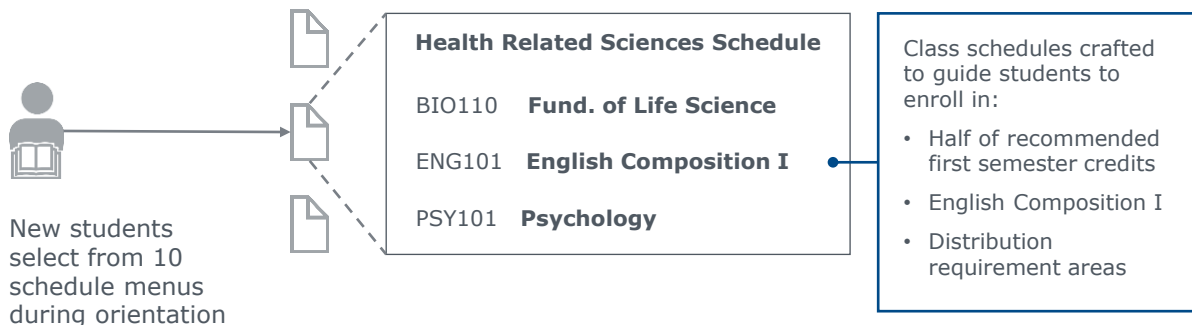
# À La Carte Academic Schedules



## CUNY Queensborough Offers Prefabricated Meta Major Scheduling Menus

### Highlighting Most Relevant Course Options

*Illustration of QCC's Newest Scheduling Model*



**Tip:** If historical data shows that a significant number of students switch between meta majors, this is cause to ensure some overlap of scheduling menus across meta majors (e.g., the scheduling menus for the STEM and Health Related Sciences meta majors share ENG101 and MAT119)





# Allow Choice, But With Guardrails

## Implementation Advice for Meta Major Scheduling Menus



### Search Records

- Analyze historical data to identify 10 most enrolled courses in each meta major among first-year students
- Identify which courses on the list are applicable to programs in the meta major



### Provide Many Timeslots

- Courses on scheduling menus should be available throughout the day and night
- Consider variations of scheduling menus that align to certain times of day (i.e., all courses on the scheduling menu are offered from 9:00am to 1:00pm)



### Optimize for Transfer

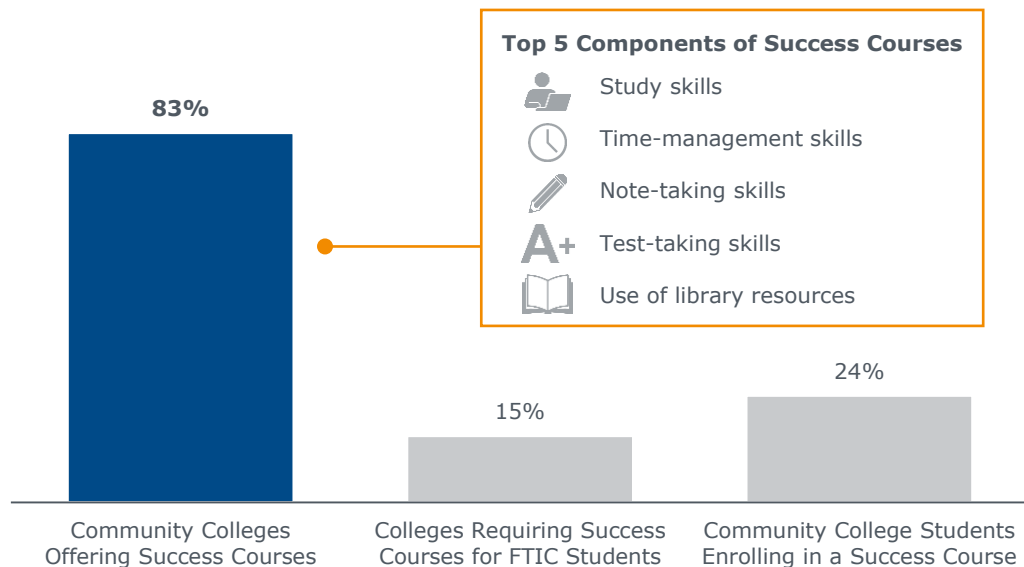
- When selecting courses for scheduling menus, indicate which courses are accepted by four-year university transfer partners
- Consider creating specialized scheduling menus for students planning to transfer

# A Narrow Definition of Success Skills

## Student Success Courses Plentiful, but Miss the Mark

### Courses Suffer from Low Utilization and Limited Scope

*Results from 2011 CCSSE and CCIS Surveys*



Source: "Matter of Degrees: Promising Practices for Community College Student Success," Center for Community College Student Engagement, 2012; EAB interviews and analysis.

# Redefining Elements for Success



## Course Focused on Career Exploration Draws Crowds, Boosts Persistence

### Cuyamaca's Completion Mapping Course



#### Exploring Personality Type

*Do What You Are* self-assessment



#### Determining Learning Style

*Productivity Environmental Preference Survey (PEPS)*



#### Defining Multiple Intelligences

Student journaling class activities



#### Articulating Career Interests

O\*NET exploration assignments

85%

Fall-to-spring persistence rate for career mapping course completers, versus 65% for non-enrollees

2,000

First-year students participating in optional Personal Development Course 124 annually

### Boost Course Enrollment with Perks

#### *Flexible*

- Offered online, face-to-face, hybrid

#### *Transferrable*

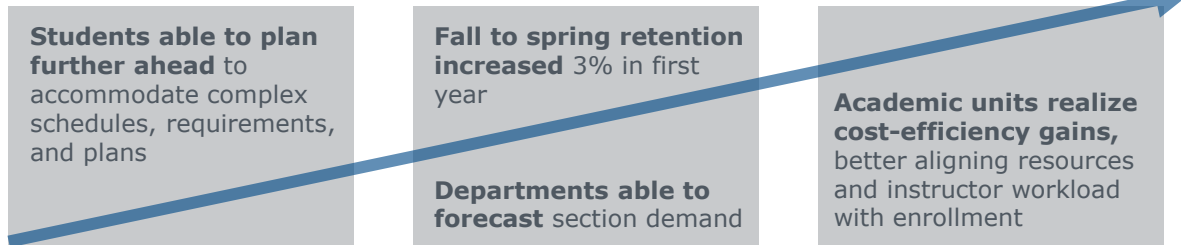
- Applicable to A.A. and A.S. general education requirements
- Transfers to California State University System and University of California system as general education electives

# Extending Registration's Reach

## Multi-Term Commitment Enables and Encourages Long-Term Planning



### Immediate Benefits to Students



### Broader Impact on Campus

### Student Participation is Voluntary, But Substantial and Growing Quickly



Source: Allie Grasgreen, "Registering Toward Completion," Inside Higher Ed, April 2014; "Cleveland State University - Multi-Term Registration: Course Scheduling for Student Success," AACU Innovations Exchange; EAB interviews and analysis.

## Experts Recommend Multi-Term Registration

“I’m kind-of surprised it’s not more widespread, because it’s not technologically a challenge. I think it makes a lot of sense if you can do it. It’s good resource planning.”

*Michael V. Reilly, Executive Director  
American Association of College Registrars*

“This is almost zero effort from a registrar’s perspective.”

*Janet Stimple, University Registrar  
Cleveland State University*

# Getting Multi-Term Registration Right

## Key Advice from Cleveland State University

### 1 Maintain System of Pre-Requisite Checks

Registrar checks student information system (SIS) during the term to monitor if students are still eligible to take the courses they have enrolled in for future semesters



Registrar checks SIS 3x per semester:

- After the course add/drop date
- After the last date of course withdrawal
- After the last day of the semester

### 2 Reduce Number of Course Scheduling Meetings

Faculty assemble once annually to plan a full year's worth of courses, rather than meeting two to three times per year to plan the schedule for each semester



All other term deadlines remain the same:

- Deadlines for course add/drop
- Payment plans for tuition financing
- Financial aid eligibility

### 3 Create Simple Departmental Schedule Grids

Schedule grids prevent department faculty from scheduling required courses during the same time slots. Faculty may fill remaining slots with electives



"We had classes that were off-grid that put students in danger of not graduating: they were idle for two class periods because one course cut into both of them. They could have been progressing toward a degree."

*Carmen Brown, VP Enrollment Services*

Source: EAB interviews and analysis.

# Federal Funding Stream Dries Up

## Part-Time Students Seek Summer Financing to Stay on Track



### Outdated Timeline Fails Students

"We've thought about college in an agrarian way forever. Maybe that's fine for the elite, and maybe that's fine for farmers, but it doesn't work for our students who are working, or have financial challenges."

*Joshua Powers, Associate Vice President  
Indiana State University*

### Grand Experiment Comes to End

*Year-Round Pell Grants Ended in 2011*



2008 Higher Education Opportunity Act lets students qualify for Summer Pell grant



From 2008 to 2010:

- Two-year college enrollment grows by 200,000 students
- FTE enrollment grows 14%, while head-count grows 9%
- Summer FTE enrollment grows 15%, while summer head-count grows 10%



2011 federal spending bill maintains maximum Pell grant, but eliminates year-round Pell

**70%**

**Students taking fewer than 15 credits** per term at community colleges and thus off-track for timely graduation

**39%**

**Fall-to-fall retention rate** for part-time community college students, compared to 59% for full-time students

# Summer Pell Alternative



## Scholarship Incentives Make 30-Credit Annual Enrollment Attainable

### Full-Year Enrollment

*ISU's Summer Scholarship Pays Students to Reach Full-Time Status*



#### Past Pilot Phase:

On-Track Summer Scholarship piloted summer 2014; set for growth summer 2015



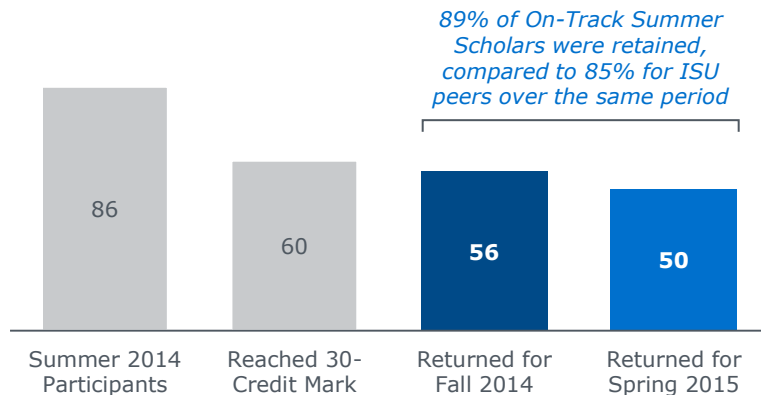
#### Meeting a Need:

Banded tuition models insufficient incentive for full time enrollment if students have competing demands on time—work, family, etc.



#### Program Benefits:

Scholarship provides 6 free college credits over summer and a \$300 book stipend



#### Advice from the Front Lines:



Expect increased demand for summer courses



Expand size of summer tutoring network



Consider summer orientation for new online students



# Minimizing First-Semester Drop-out

---

SECTION

4

# Odds Against Them

## New Students Enter College Exhibiting Historically Risky Profiles

### Snapshot of Community College Students<sup>1</sup>



First-Generation

**36%**

First in their families to attend college



Employed

**74%**

Work at least part-time while taking college classes



Family Duties

**33%**

Care for family dependents at least one hour per week



Low-Income

**72%**

Apply for financial aid to cover college expenses



**At-Risk Student**

Difficult Class

Short on Cash

Overwhelmed



**Unclear Outcomes**

*"I'm not smart enough"*

*"I'll work more hours"*

*"My family needs me"*

Source: "Matter of Degrees: Promising Practices for Community College Student Success," Center for Community College Student Engagement, 2012; "Community College Fast Facts," American Association of Community Colleges, 2015; EAB interviews and analysis.

# Minimizing First-Semester Drop-out

## Aligning Services to Students Based on Demonstrated Need



### Connecting with Services

#### *Personalized Resource Nudges*

- Proactive communication of campus services best-suited for student profile
- Case Study: Mount Wachusett Community College (MA)



### Intervening Pre-drop-out

#### *Cross-Trained Add-Drop Coordinators*

- Designated staff help students explore alternatives to drop-out
- Case study: Manchester Community College (CT)

### Reducing Cost of Deviation

#### *Compressed Mini-Semesters*



- Condensed courses across new academic calendar reduces impact of credit loss during drop-out
- Case study: Trident Technical College (SC)



### Peering into the Black Box

“A student enters into the admissions process, we get them registered for classes, and then they disappear into the crowd! You think you’ve got all your ducks in a row, but the reality is you lose people along the way.”

*President  
Midwest Community College*

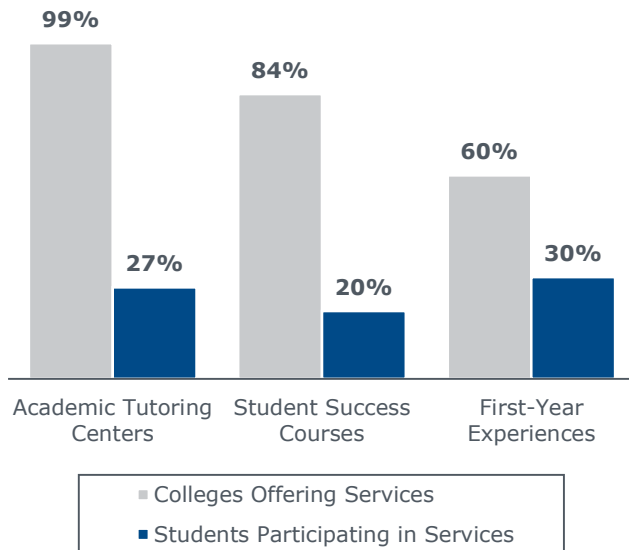
# If You Build It...?



## Despite Significant Investments, Student Services Often Underutilized

### Campus Services Fail to Recruit Participants

Results from 2011 CCSSE and CCIS Surveys



*What Prevents Use of Services?*



#### Options Feel Overwhelming

Average community college has 200+ student services offices, special programs, and clubs to choose from



#### Services Easily Dismissed

Most students don't self-identify as needing additional support to avoid stigma of "being stupid" or "taking handouts"



#### Easy Choice Not Best Choice

Students more likely to select extracurricular activities that seem 'easy'; groups requiring greater commitment neglected

Source: "Matter of Degrees: Promising Practices for Community College Student Success," Center for Community College Student Engagement, 2012; EAB interviews and analysis.

# Proactive Service-Matching

Using Intake Survey Results to Identify and Push Relevant Resources

## Mount Wachusett's Personalized Resource Nudges



### New Student Intake Survey



30-question survey collects information about risk factors like family support, transportation, financial literacy, etc. Survey required during placement test

1

2

3

4



### Campus Services Referral Matrix

Assistant Dean of Student Services assembles team to create matrix. Each question on intake survey corresponds with relevant services

### Personalized Resource Nudges



Nudges follow four key rules:

- ✓ Element of personalization
- ✓ Relevant information
- ✓ Timeliness or urgency
- ✓ Call to action and next step

↑ 20%

Increase in fall-to-fall persistence rate of first-time, full-time 2013 cohort, compared to 2012 cohort

# Make Your Message Stick

## Four Quick-Wins to Ensure Resource Nudges Have an Impact

### Lessons from Across Industries

#### Message Content



**Personalization:** Informing students of the sender's name or illustrating that the sender knows personal information about the student ensures the sender is a real person, not a robot



**Peer Testimonials:** Digital coaching model holds 100+ student testimonials of overcoming barriers to success. Peer stories resonate most when students share similar backgrounds

#### Delivery Strategy



**Sense of Urgency:** Including deadlines and just-in-time reminders emphasizes the importance of accomplishing tasks on time and prompts student into action before it's too late



**Next Steps:** Attaching a hyperlink, phone number, or other avenue for next steps helps student take immediate action on message

# Mid-Semester Melt

## One-Quarter of Community College Students at High Risk of Drop-out

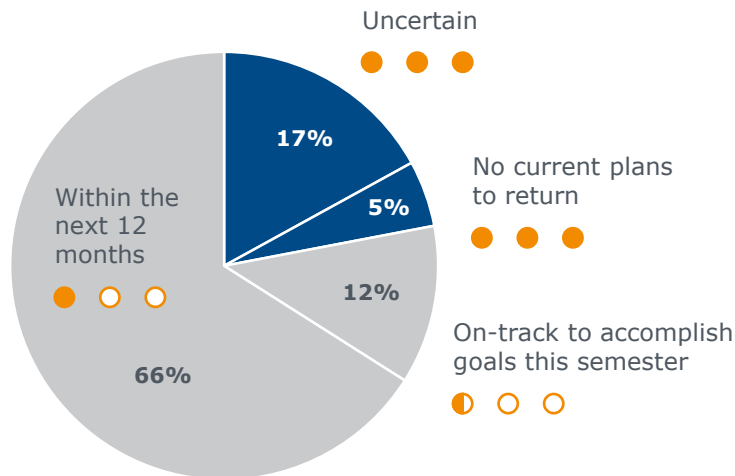
### ...And All Students Present Some Attrition Risk

Responses to CCSSE 2011 Survey Item: "When do you plan to take classes at this college again?"<sup>1</sup>

#### The Best Laid Plans...

Nearly one-quarter of current students are at high-risk of dropping out. Even students who have plans to take classes within the next 12 months are at-risk of mid-semester attrition due to:

- Academic difficulty
- Personal challenge
- Unanticipated life event



● ● ○ Relative level of risk of mid-semester attrition

1) n=433,639

# An Intentional Student Barrier

## College Deploys Designated Staff to Dissuade Potential Dropouts

### Last-Touch Intervention Strategy

*Manchester's Add-Drop Coordinators Prevent Unnecessary Withdrawals*



**Student Attempts to Drop Courses**

**Coordinator Presents Alternatives to Drop**

**Student Remains Enrolled in Classes**

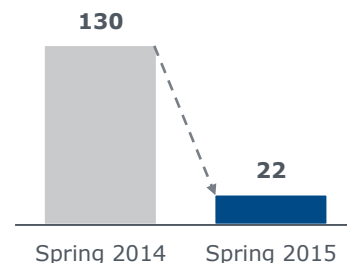
#### Common reasons for withdrawal:

- Avoiding a failing or low course grade
- Disliking an instructor
- Feeling overwhelmed by number of responsibilities

#### Primary characteristics of add-drop counselor role:

- *Cross-trained*: Add-drop coordinators rotate between admissions, registrar, and financial aid offices
- *Intrusive*: Students must speak with coordinator before submitting withdrawal form

#### Withdrawals plunge as coordinators introduced:





# Personal Touch Key to Success

## Students Need Connection to College to Reconsider Withdrawal



### Real Conversation Makes a World of Difference

"The Enrollment Services Coordinator position gives students an opportunity to talk with someone, even if it's only for a few minutes...

But if they can build that rapport in five minutes and really make a connection to the college, then the student might rethink their decision to leave."

*Peter Harris,  
Director of Enrollment Management  
Manchester Community College*

### Manchester's Staff Investment

*Background Profiles of Add-Drop Coordinators*

5

Number of full-time coordinators integrated into college's student services offices



All coordinators have at least a B.A. degree and some counseling experience



Staff stationed in financial aid, admissions, and registrar 3 days per week; rotate 2 days



Coordinators staffed in one-stop shop before fall term to help with new student enrollment

# No Other Options

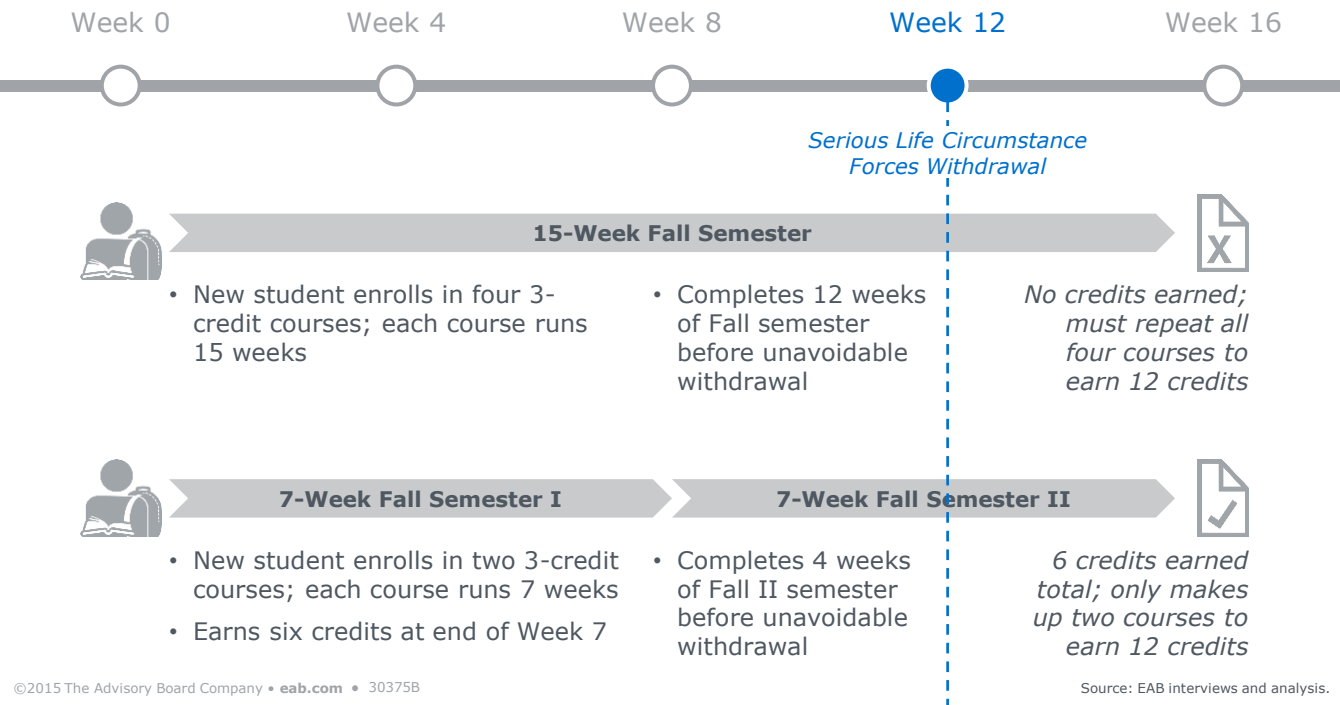
## Most Severe Life Challenges Force Students to Withdraw Mid-Semester

“Middle class students are sufficiently resourced to contain outside life circumstances so that they do not overflow into every aspect of their lives. On the other hand, when something goes wrong for low-income students, the effect surpasses a safety-net threshold which then cascades across their lives, triggering additional consequences. For this reason, **a roadblock that only causes minor tremors in a traditional student's academic performance is more likely to be insurmountable for a non-traditional student.** Unfortunately, many of these roadblocks occur mid-semester, putting these non-traditional students at risk of losing all progress made towards completing credits and reducing their odds of ever returning.”

*William Watson, Director of SparkPoint  
Skyline College*

# Reducing the Penalty for Stopping Out

## Compressed Mini-Semesters Give Dropouts Chance at Credit Attainment



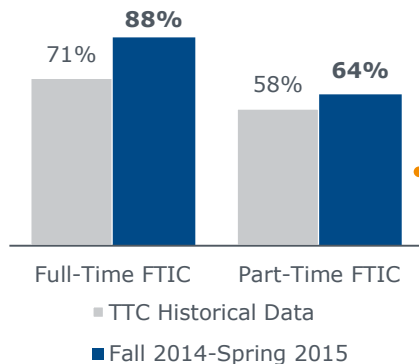
# Transforming the Academic Calendar

## Mini-Semesters Boost Outcomes, But Require Careful Campus Redesign

### Compressed Mini-Semesters Keep Students Engaged

**↑13%** Percentage point increase in course pass rates from 62% in Fall 2011 to 75% in Fall 2014

*Fall-to-Spring Retention Rates*



### Key Transition Elements

*Lessons Learned from Trident Technical College*

- 
**Campus Advertisement of Changes**  
 Must communicate new schedule to new and returning students. Trident recommends in class, online and paper announcements
- 
**Faculty Professional Development**  
 Faculty can apply for small funding to pursue professional development on compressed scheduling
- 
**Financial Aid Disbursement**  
 Financial aid office must designate a staff member to manage disbursement of funds and track students that meet the criteria for return to Title IV funds



Education  
Advisory  
Board

Community College Executive Forum

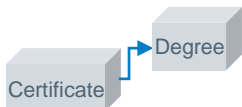
# Industry Futures Series:

Shaping the Portfolio to Meet the  
Next Decade's Critical Workforce Trends

# Five Opportunities Worth Attention

## Where Can Community Colleges Do Well and Good?

### Hyper-Stackable Emerging Careers



*Flexible Content for  
Multiple Entry Points*

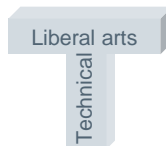


**Second  
Careers in Aging  
Services**



**Multi-Track  
Cybersecurity  
Pathways**

### Creating T-Shaped Professionals



*Reboots for  
Pre-Mid-Careers*



**Threshold Tech  
Skills for Career  
Starters**



**Additive  
Manufacturing  
Programs**

### Enabling Intrinsically Local Industries



**Craft Brewing  
and Unmanned  
Aerial Vehicles**



# Second Careers in Aging Services



## Benchmark Programs

- Motivational health portfolio
- Elder financial planning portfolio
- Aging-in-place certifications



## Target Students

- Age 45+, with personal experience caring for elderly
- Physio, law, accounting, interior design, construction professionals



## Low-Cost Marketing

- Campus-hosted information sessions
- Caregiver social media sites



## Demand Drivers

- Numbers and spending power of active seniors
- Need for one-stop aging services providers



## Career Proposition

- Senior specialization in existing profession
- Small service business start-ups



## Risks and Barriers

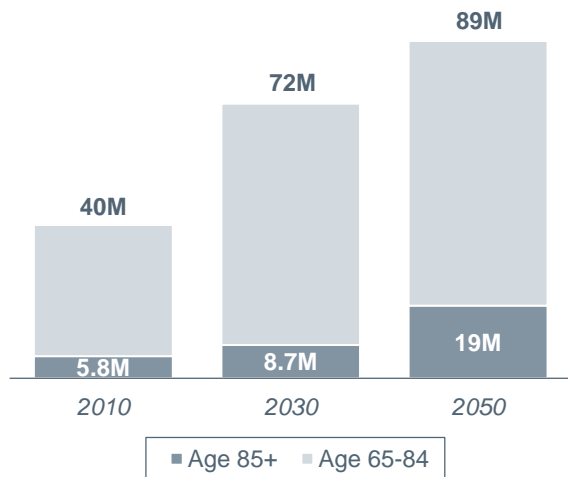
- Surprising price sensitivity of older students
- “Race to the Bottom” credentialing

# Silver Tsunami Breaks in Two Directions

Affluent Boomers Seek Wellness Services, While Less Wealthy Seek Care

## Old (and Oldest Old) Populations Growing

Projected U.S. Population Age 65+, 2020-2040



10K

Number of U.S. Baby Boomers turning 65 each day, 2011-2030

## Graying as Seniors Relocate

- Florida
- Georgia
- North Carolina
- Texas
- Utah



*Active Lifestyles*  
*Elective Wellness*  
*Consumer Goods*

## Graying as Young People Leave

- Maine
- Pennsylvania
- West Virginia
- Iowa
- North Dakota



*Aging in Place*  
*Chronic Care*  
*Social Services*



# Wellness and Financial Planning



## Caring for the Physical, Financial, and Consumer Needs of the Aging

### Aging Drives Growth in Health Spending

*National Health Expenditures, 2010-2022*



**177%** Average health care spending per person age 65+, compared to age 45-64

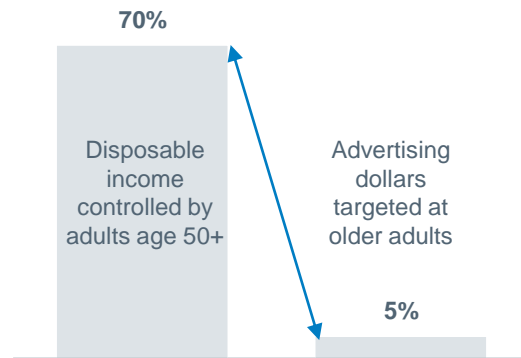
2010

2014E

2018E

2022E

### Older Adults Have Most of the Money



**\$2T** Annual spending on goods and services from consumers age 50+

#### Serving Active Seniors

- Fitness trainer
- Geriatric dietitian
- Geriatric counselor

#### Serving Oldest Seniors

- Home health aide
- Chronic care coordinator
- Palliative care nurse

#### Serving Affluent Seniors

- Wealth manager
- Estate planner
- Age-savvy marketer

Source: Gigi Cuckler, et al, "National Health Expenditure Projections, 2012-22," Health Affairs, Sept. 2013; "Health Care Costs: A Primer," Kaiser Family Foundation, May 2012; Pamela McLaren, "Students Focus on Marketing to Boomer Generation," May 2013; "Introducing Boomers: Marketing's Most Valuable Generation, Nielsen and BoomAgers, Education Advisory Board interviews and analysis.

# Aging in Place

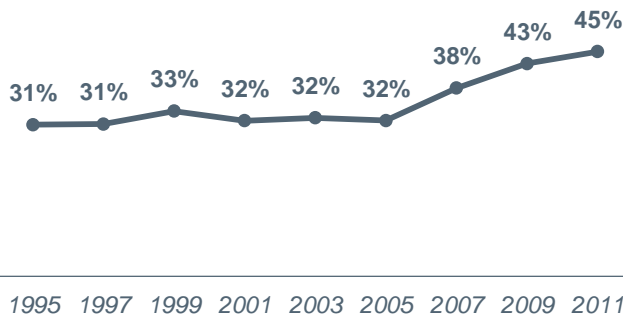


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## Demand for Home Modifications Grow as Homeowners Age

### More Remodeling Driven by Older Adults

*Share of Total Spending on Home Improvement from Homeowners Age 55+*



### Plenty of Room to Retrofit

*Share of Homeowners Age 55+ Without...*

First-floor bedrooms <50%

Wheelchair-accessible kitchens 67%

Raised toilets 83%

Wider hallways and doorways 83%



### New Technologies for Aging

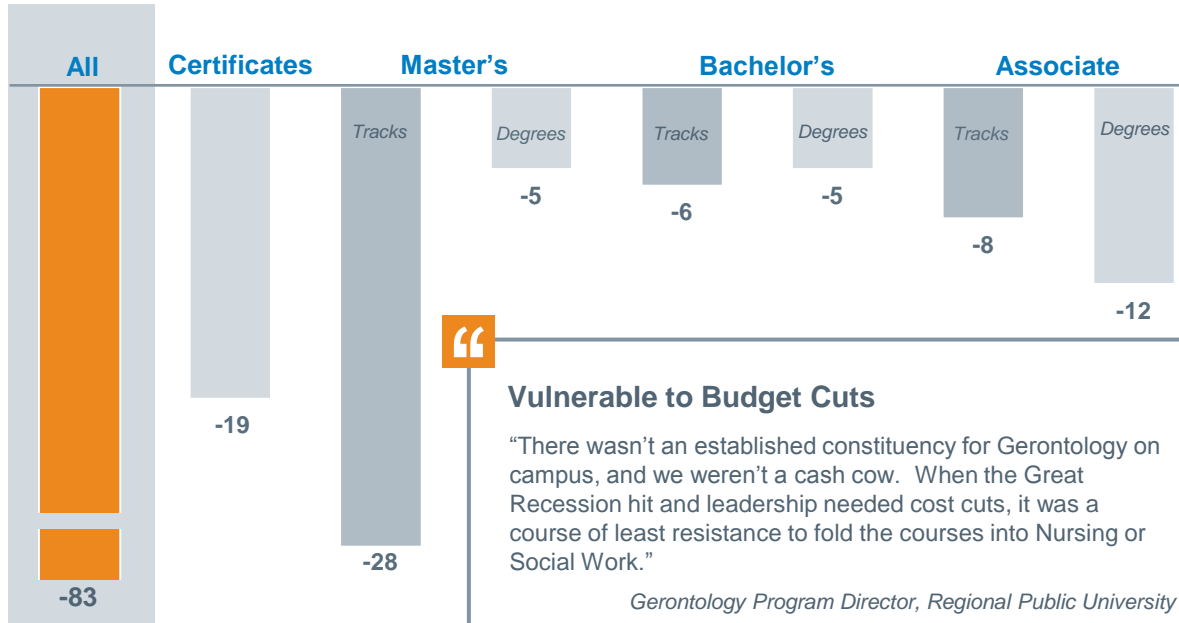
- Robot companions
- Motion sensors in hallways
- Alerts on exterior doors
- Diet monitors on fridge doors
- Sleep monitors under mattresses
- Vital signs monitors

Source: "The US Housing Stock: Ready for Renewal," Joint Center for Housing Studies of Harvard University, Jan. 2013; John Sutter, "Sensors Monitor Older People at Home," CNN, Nov. 2010; Education Advisory Board interviews and analysis.

# A Tough Decade for Traditional Gerontology

Why the Contraction if the Age Wave is Nigh?

Change in Number of U.S. Gerontology Programs, 2000-2009



# Aging Services Programs in Need of Repositioning?

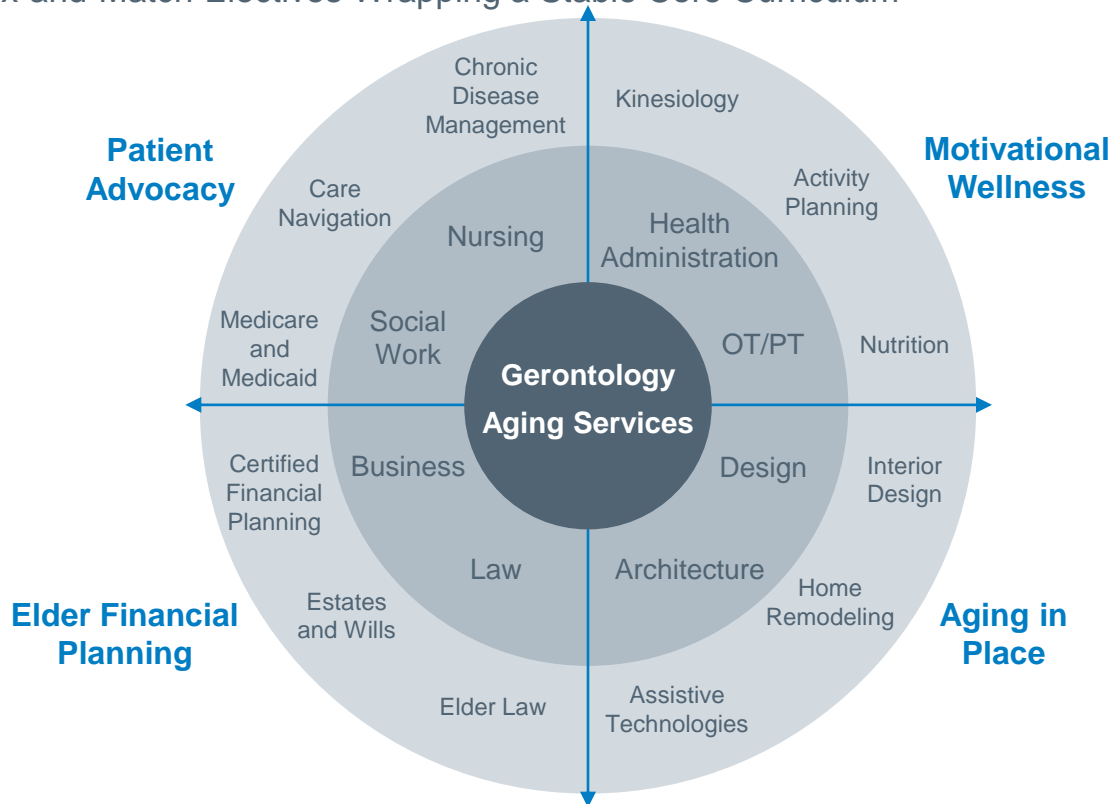


## Why Aren't "Silver Tsunami"-Themed Programs Growing Faster?

- 1) **Brand Perception Challenges with Younger Students**  
Fairly or not, traditional-age students associate senior programs with disease and death
- 2) **No Compelling Career Advancement Value Proposition**  
Many jobs working with seniors don't require master's credential to practice—programs can be too long or expensive
- 3) **Learning Outcomes Not Aligned with Seniors' "One Stop" Needs**  
Traditional curriculum doesn't mirror range of senior clients' requirements

# One-Stop Services for Seniors

Mix-and-Match Electives Wrapping a Stable Core Curriculum



# Patient Advocacy



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## Patient Education to Prevent Unnecessary Readmissions

### Key Elements of Health Coach Role



- RN/LPN
- Community Member

#### Medication Adherence



Reviews discharge medication list with patient and answers any questions

#### Disease Education



Ensures patient knows disease progression early warning signs and how to respond appropriately

#### Personal Health Record



Helps patient create a folder of important health information to share with providers

#### Physician Follow-Up



Assists in scheduling and complying with timely PCP appointment

#### Chronic Care

- Diabetes
- Pharmacy



#### IT Systems

- Disease Registry
- EMR/PHR



#### Communications

- Coaching
- Gerontology

# A Motivational Wellness Portfolio

## What Do Fitness, Nutrition, and Wellness Specialists Need for One-Stop Services?



### Associate of Applied Science in Kinesiology/Exercise Science

17 courses, \$5,500 – \$6,300

- Human Anatomy
- Growth and Motor Behavior
- General Chemistry
- Foundations of Kinesiology

Four-semester program prepares graduates for careers in exercise science, rehabilitation, education, and motor development



### Geriatric Health and Fitness Certificate

7 courses; \$3,000

Day and evening classes prepare students to work with older adults in fitness centers and senior living facilities



### Mental Health and the Older Adult Certificate

8 seminars and summer session; \$1,255

Prepares licensed counseling practitioners and allied health professionals to work with older adults experiencing mental distress



### Geriatric Recreational Therapy Certificate

5 courses; \$3,300

Fully online; prepares therapeutic recreation specialists and other health professionals to develop recreational activities in senior living facilities and hospitals

Source: "Kinesiology Program," Lansing Community College; "Exercise and Sport Science," Dakota County Technical College; "Mental Health and the Older Adult Certificate Series," University of Wisconsin-Madison; "Geriatric Recreational Therapy (GRT) Certificate," University of North Carolina at Greensboro; Education Advisory Board interviews and analysis.

# An Elder Financial Planning Portfolio



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## What Do Advisors, Lawyers, and Accountants Need for One-Stop Services?



### South Seattle Community College

#### Certified Financial Planner™ Professional Education Program

6 courses; \$4,000 – \$5,000

- Financial Planning Process and Insurance
- Investment Planning
- Retirement Planning/Employee Benefits
- Estate Planning

Prepares students for CFP exam; students enroll at both South Seattle Community College and the for-profit College of Financial Planning in Denver, CO



#### Certificate in Fiduciary Management

7 courses; \$2,700

Prepares students to serve as conservator or court-appointed trustee; bachelor's degree or equivalent experience required



#### Certificate in Estate Planning

4 courses; \$10,000

Prepares students to formulate, revise, and implement estate plans; offered in San Francisco, Seattle, LA, and online



#### Course in Elder Law

Paralegal program course; \$312

Reviews laws that affect the elderly and analyzes legal, ethical, and social issues; offered as a special elective within the Legal Assisting Associate Degree program

Source: "Certified Financial Planner," South Seattle Community College; "Professional Certificate in Fiduciary Management," University of California Riverside Extension; "Graduate Certificate in Estate Planning," Golden Gate University; "Paralegal/Legal Assisting Course Descriptions," Hillsborough Community College; Education Advisory Board interviews and analysis.



# An Aging-in-Place Portfolio



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## What Do Designers and Builders Need for One-Stop Services?



### Design for Accessibility and Aging in Place Certificate

17 courses; \$4,312

- Introduction to Architectural Drawing
- Planning Interiors
- Sociology of Health & Aging
- Exploring the Field of Aging

One-year, four-term program; combines architecture, interior design, sociology, and gerontology classes; students can earn independently or apply towards related degree



### Gerontology, Concentration in Interior Design Graduate Certificate

6 courses; \$5,100 - \$9,024

Relevant professional experience may be applied for 1.5 credits; certificates can apply toward master's degree in same concentration



### Residential Design and Aging in Place

1-day workshop; \$700

Designed for architects and design instructors; combines models of stylish homes and products for the aging with latest research on aging design

Source: "Gerontology, Concentration in Interior Design Certificate," University of Nebraska Online Worldwide Online and Distance Graduate Programs; "Master of Science in Assistive Technology Engineering," Tseng College of Graduate, International, and Midcareer Education; Education Advisory Board interviews and analysis.



# Content-Led “Soft” Recruiting

## Low-Cost Approaches to Marketing Programs in Aging Services

### Social Media

### Events

#### Experienced Professionals



#### *Content Marketing on LinkedIn Groups*

Articles on retirement and estate planning for finance and investment professionals, with program name and link attached



#### *Health Employer Outreach*

Short workshops for employees at senior centers, nursing homes, and hospitals, with skills training and program information

#### Community Caregivers



#### *Care Support Groups*

Message boards of caregiver support groups, reaching out to those interested in second careers in aging



#### *Community Workshops*

Short skills-building sessions in home safety, home improvement, and assistive tech to introduce caregivers to aging in place content



# Second Careers in Aging Services

## Assessing the Opportunity for Your Institution

### Why They Work



Active seniors' spending power and unmet need for "one-stop" services



Mismatch of traditional gerontology programs with younger student preferences and career advancement needs



Appeal of aging services to small entrepreneurs and second careerists

### How Can We Adapt Existing Curricula to Meet Seniors' "One-Stop" Needs?



**Patient Advocacy:** *Can we combine nursing or social work programs with curriculum stacks in pharmacy, information systems, communications and psychology?*



**Financial Planning:** *Can we combine business or paralegal programs with curriculum stacks in fiduciary management, estate planning, or elder law? Are we willing to combine courses with professional exam preparation courses?*



**Motivational Wellness:** *Can we combine physiology or physical therapy programs with curriculum stacks in counseling, nutrition, or facilities management?*



**Aging-in-Place:** *Can we combine existing gerontology, design, and architecture programs with curriculum stacks in assistive technology courses? Are contract education courses for local builders or facilities managers viable?*

# Multi-Track Cybersecurity Pathways



## Benchmark Programs

- Just-in-time executive education
- “Versioned” core programs
- Industry verticals in critical sectors



## Target Students

- “Self-taught” cybersecurity IT workers age 30+
- Policy and law career changers



## Low-Cost Marketing

- Technical lifelong learning memberships
- B2B contract education



## Demand Drivers

- Private sector gets serious on cyber crime and security
- Public sector defines competency-based outcomes



## Career Proposition

- Security specialists earning more than programmers
- T-shaping managers



## Risks and Barriers

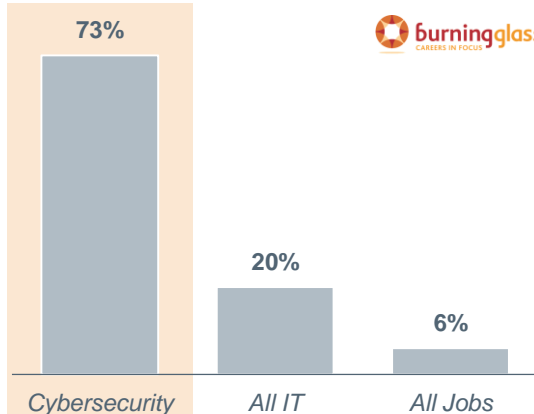
- High costs of virtual online security labs
- Lack of qualified faculty

# White Hot Specialty in a Red Hot Field

Cybersecurity Demand Growing Faster than IT Sector Overall

## Exploding Employer Demand

*Increase in Online Job Postings, 2007-2012*



### Highest-Demand Titles (2012)

- *Engineer* – 13,000+ jobs
- *Analyst* – 10,000+ jobs
- *Manager* – 3,000+ jobs

## A Growing Wage Premium

**\$101K** Average wage for cybersecurity engineers, analysts, architects

**\$89K** Average wage for all IT jobs with comparable years' work experience

**\$6K** Average salary increase from Certified Information Systems Security Professional (CISSP) status

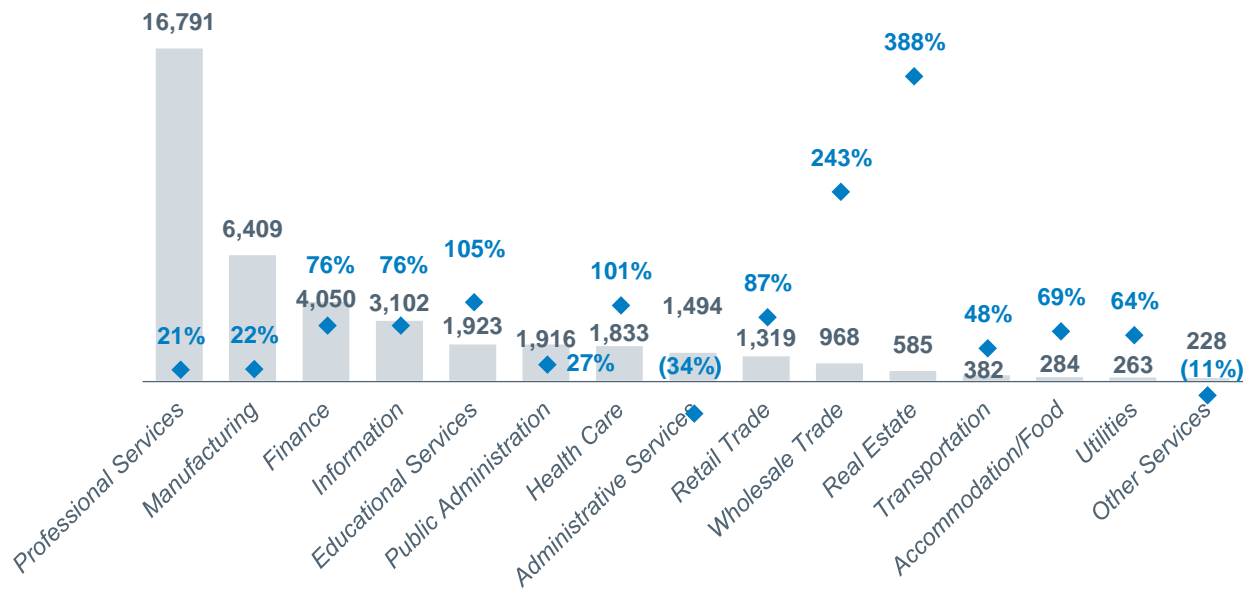


### Hard-to-Fill Despite High Pay

**35%** Rate at which employers are more likely to re-post a cybersecurity job, versus another IT job, due to a lack of qualified candidates

# Every Industry Taking Note

## Broad Growth in Cybersecurity Job Postings Across Sectors



Number of job postings,  
January to October 2013



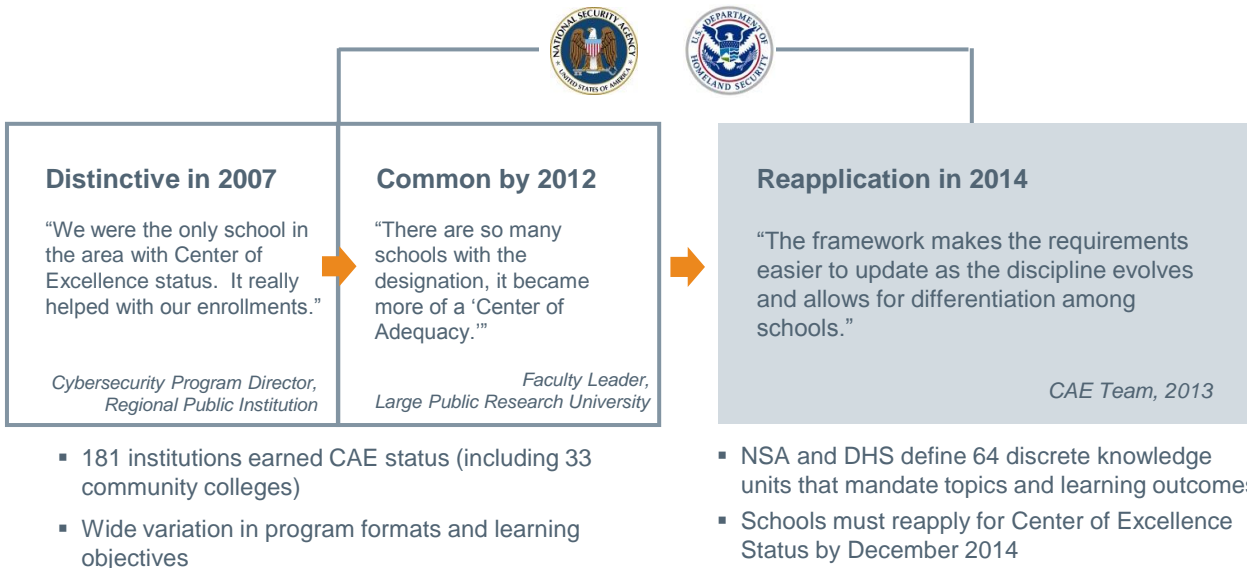
Percentage growth in job  
postings, 2010 to 2013

# Clarifying Competencies

## Bellwether Federal Employers Define Cybersecurity's "Must-Have" Skills

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### Centers of Academic Excellence in Information Assurance and Cyber Defense



Source: "National Centers of Academic Excellence in Information Assurance/Cyber Defense: New Academic Requirements," National Security Agency and Department of Homeland Security, June 2013; Education Advisory Board interviews and analysis.

# Stable Core Curriculum Mix-and-Match Options

## NSA-DHS Information Assurance/Cyber Defense Knowledge Units\*



### Core Knowledge Units (15)

#### Two-Year Programs

- Data Analysis
- Introductory Programming
- Cyber Defense & Cyber Threats
- Fundamental Security Design
- IA Fundamentals
- Intro to Cryptography
- IT Systems Components
- Networking Concepts
- Policy, Ethics, and Compliance
- System Administration



#### Four-Year Programs

- Databases
- Network Defense, Technology and Protocols
- Operating Systems Concepts
- Probability and Statistics
- Programming

### Optional Knowledge Units (49)

#### Secure Software Development

- Secure Programming Practices
- Software Reverse Engineering
- Life-Cycle Security

#### Enterprise Management

- Cyber Security Planning
- Fraud Prevention
- Security Program Management
- Security Risk Analysis



#### Digital Forensics

- Device Forensics
- Network Forensics
- Forensic Accounting
- Intrusion Detection
- Advanced Cryptography

#### Mobile Security

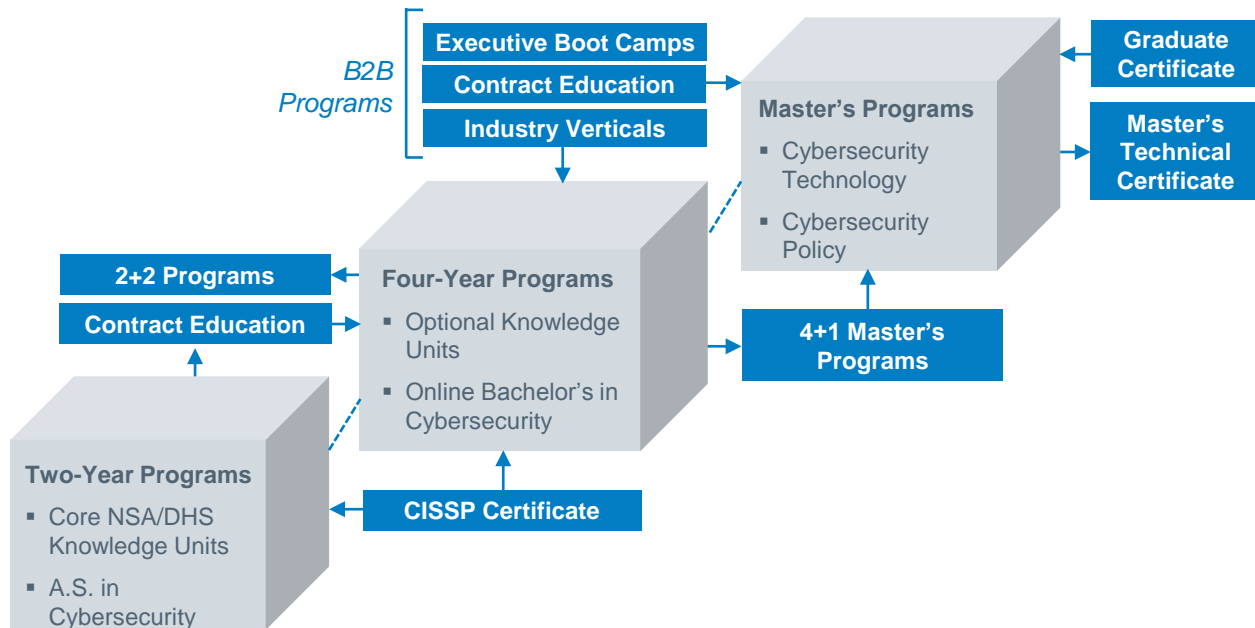
- Mobile Technologies
- Cloud Computing
- Hardware/Firmware Security
- Virtualization Technologies

\*Partial list of 64 knowledge units. Full list available at <http://www.cisse.info/pdf/2014/2014%20CAE%20Knowledge%20Units.pdf>



# Tremendous Potential for Stackability

Institutions Able to “Version” Programs Enjoy Many Points-of-Entry



# Clarifying Career Value Proposition

Diverse Pipeline and Defined Outcomes Sustain High Enrollments



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## A.A.S. in Networking/Cybersecurity

### Enrollment Pipeline



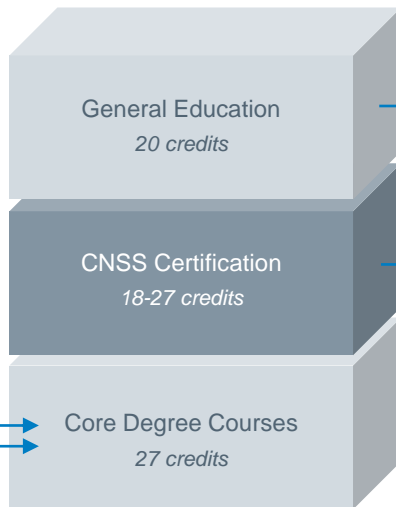
#### Building K-12 Awareness

Program director presents during guidance counselor luncheons and STEM classes at 12 regional high schools



#### Not Just Military

20% of cybersecurity students are employed at air force base near campus; 80% from general public



### Student Outcomes



#### Preferred Transfer Agreement

Full transfer of all A.A.S. credits toward Bachelor of Technology at Oklahoma State University-Okmulgee



#### Built-in Certification

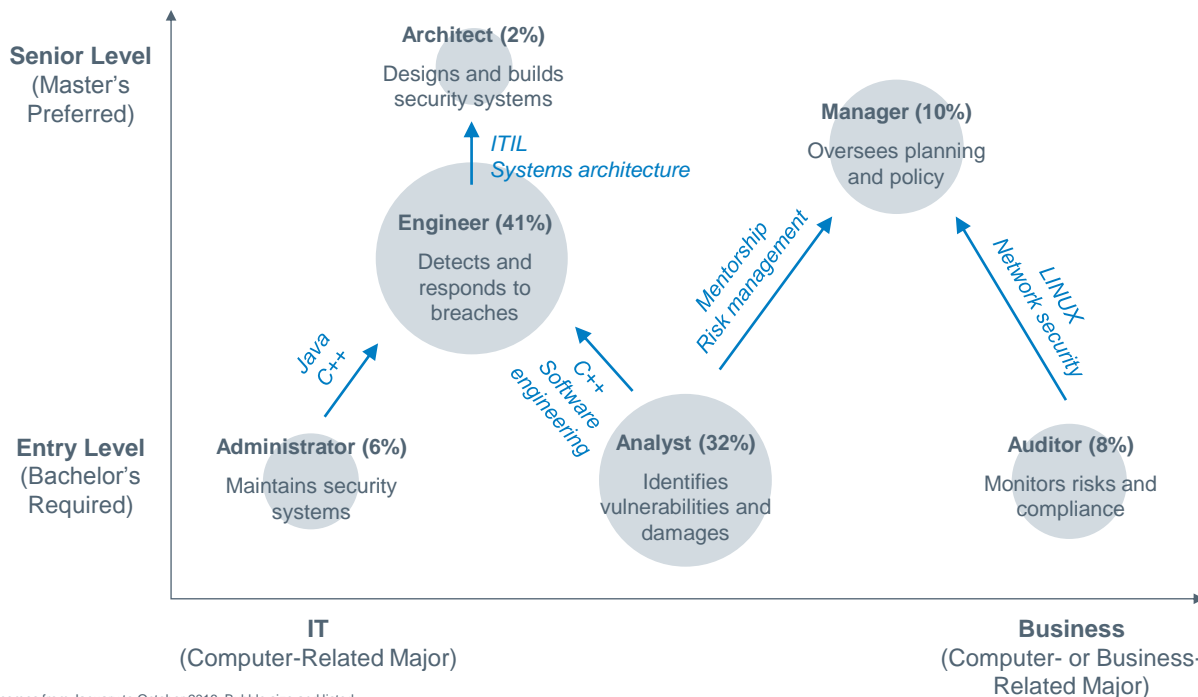
Federal credential opens door to government/defense jobs in addition to private sector employment

**200+** Declared majors in cybersecurity track

Source: "Networking/Cybersecurity Associate in Applied Science Degree – Cybersecurity Option," Rose State College; "Cyber Security Information Security Certificate Program," Rose State College; Education Advisory Board interviews and analysis.

# Climbing the Career Ladder

## A Map of Cybersecurity Roles by Education and Experience Level



1) Data comes from January to October 2013. Bubble size and listed percentage correspond to the percentage of all identified cybersecurity job postings corresponding to a given role.

# Multi-Track Cybersecurity Pathways

## Assessing the Opportunity for Your Institution

### Why They Work



Bellwether employers endorsing discrete competency clusters; foundation for stackable credentials



Technical and policy tracks offer multiple entry points for career advancers and changers



Rising opportunity for industry verticals as costs and risks of cybercrime mount

### What Existing Programs Would Benefit from Cybersecurity's Curriculum Extensions?



*Do our marketing or computer science programs offer mobile or wireless concentrations that would complement cybersecurity stacks?*



*Do we have strengths in law, ethics, trade policy, or criminal justice that would benefit from a cybersecurity track or add-on certificate?*



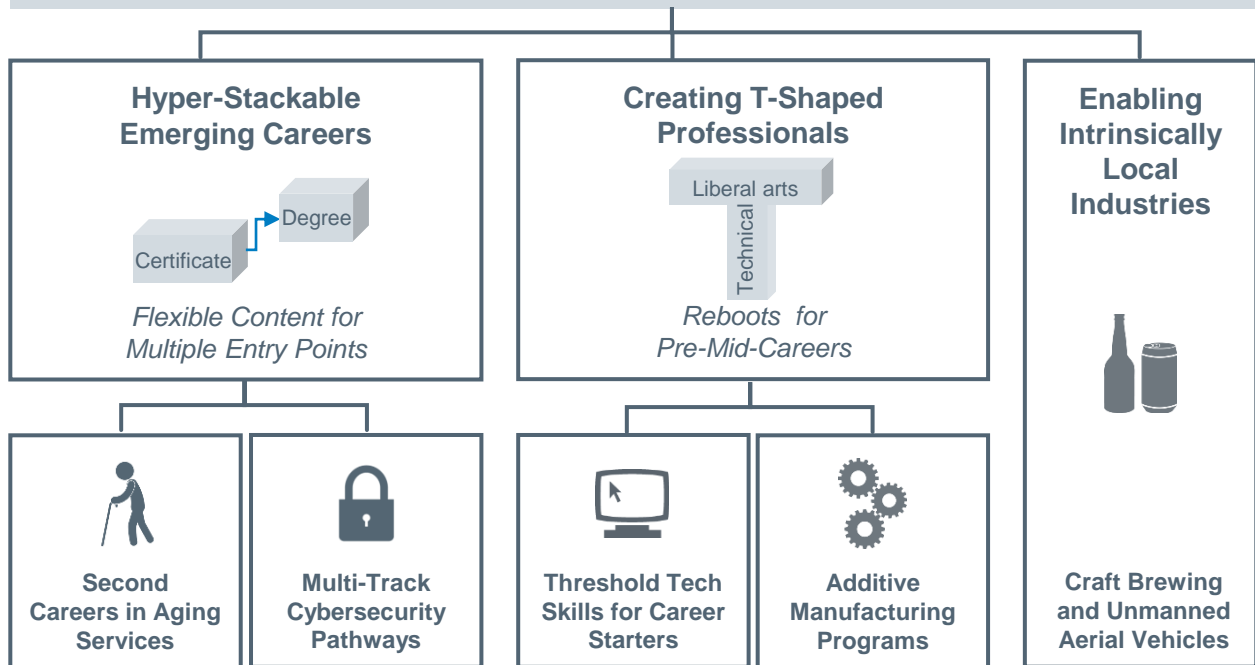
*Do we enjoy deep relationships with employers who could help design a B2B industry-vertical stack spanning short-program executive education sessions to specialized degrees?*



*Do we have curriculum and brand to design B2B-focused stacks in other fields that require technical, business and policy expertise (e.g., engineering, bioinformatics, big data)?*

# Five Opportunities Worth Senior Attention

## Where Can Community Colleges Do Well and Good?



# Enabling Intrinsically Local Industries

## Beer Mechatronics



## Unmanned Aerial Vehicles



Stackable programs in distillation and fermentation



**Benchmark Programs**

UAV aviation and manufacturing

Professionalized home brewers



**Target Students**

Returning veterans

Beer enthusiast community



**Low-Cost Marketing**

Local press; military publications

Nationwide surge in local breweries



**Demand Drivers**

Pending commercial authorization of UAVs

Brewing oversight or brewery management



**Career Proposition**

UAV assembly; precision agriculture

State brewing and distillation regulations



**Risks and Barriers**

Unpredictable state regulations, despite likely federal ban lift

# Not Your Father's Drone

## UAVs Getting Smaller, Cheaper, and More Versatile

Military is 2009



### Law Enforcement: *Draganflyer X6*

- Weighs 1kg and costs \$30,000 to purchase
- Used by Royal Canadian Mounted Police to reconstruct collision and crime scenes



### Aerial Imaging: *Aibot-X6*

- Weighs 2.5kg and flies 56km/hour
- Used for mapping spaces too narrow or dangerous for piloted aircraft



### Logistics: *Amazon Prime Air*

- Delivers up to 5lbs of products in 1/2 hour
- On hold until FAA lifts commercial UAV ban

“

### Imminently, Eminently Affordable

“Machines become more sophisticated and their prices drop. The first iPhone cost \$499 when Steve Jobs introduced it six years ago. An iPhone 4 today is less than \$50, with power and features that dwarf the original. So, too, with drones.”

*The Providence Journal, Sept 2013*

Source: G. Wayne Miller, "eWave: Drones on the Home Front," Providence Journal, Sept. 2013; "Royal Canadian Mounted Police Tests Draganflyer to Replace Helicopters," UAS Vision, Sept. 2011; W. J. Hennigan, "It's a Bird! It's a Spy! It's Both," Los Angeles Times, Feb. 2011; Dominique Zamora, "The Return of the Taco-Copter," Los Angeles Magazine, Sept. 2013; Education Advisory Board interviews and analysis.

# US Opening for UAV Business Soon

## Federal Government to “Pilot” Non-Military Deployment in 2014

80

### Six UAV Test Sites Sought



Federal Aviation  
Administration

- FAA called for applications for sites to test integration of UAVs into national airspace
- Final decisions announced December 2013

### Key Criteria

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Uncongested airspace               | <input checked="" type="checkbox"/> Privacy policy                               |
| <input checked="" type="checkbox"/> Coordination with NASA and Defense | <input checked="" type="checkbox"/> Certification for air controllers, operators |

### States Compete on UAV-Friendliness

#### *Oklahoma Touts Relevant Industry Base*

- Governor creates Unmanned Aerial Systems Council to identify public and private sector initiatives
- Tax incentives and public partnerships with aerospace, manufacturing, oil & gas, and agriculture companies

#### *North Dakota Builds UAV Industrial Park*

- State assists in funding and repurposing of land near downsized Air Force base
- 1.2M square feet earmarked for tax-advantaged UAV business campus with office and manufacturing space

### Was Your State Selected?

- |                                     |   |                                       |
|-------------------------------------|---|---------------------------------------|
| ▪ <b>AK:</b> University of Alaska   | ▪ <b>NV:</b> State of Nevada                | ▪ <b>TX:</b> Texas A&M—Corpus Christi |
| ▪ <b>ND:</b> Department of Commerce | ▪ <b>NY:</b> Griffiss International Airport | ▪ <b>VA:</b> Virginia Tech            |

*Additional applicants: AL, AZ, CA, CO, FL, GA, ID, MD, MI, MN, MO, MS, NC, OH, OK, UT, WA, WY*

Source: "States Jockey to Lure UAV Industry," DefenseNews, August 2013; "25 Applicants from 24 States," FAA, May 2013; "Press Release – FAA Selects Unmanned Aircraft Systems Research and Test Sites," Dec. 2013; Education Advisory Board interviews and analysis.



# Poised for Takeoff

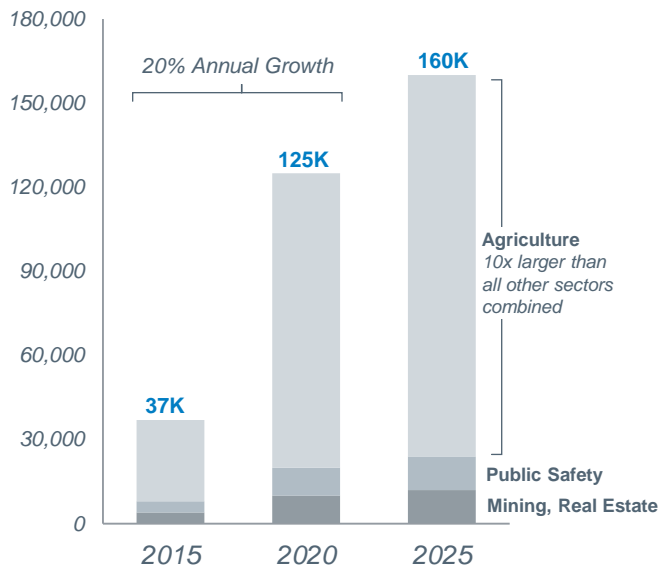
## UAV Sales and Jobs to Explode Once Commercial Restrictions Lifted



81

### Agriculture Dominates Share of Growth

*Projected UAV Sales, 2015-2025*



### Broad (If Uneven) Increase in Taxes, Jobs

*Economic Impact of UAV Deregulation, 2015-25*

State	Economic Impact	Tax Revenue	New Jobs
Total	\$82B	\$482M	104K
CA	\$14B	\$82M	18K
WA	\$8B	\$0	10K
TX	\$6.5B	\$0	8K
FL	\$4B	\$0	5K
AZ	\$3B	\$15M	4K
CT	\$3B	\$25M	4K

Estimates based on proportional share of current aerospace market

Source: "The Economic Impact of Unmanned Aircraft Systems Integration in the United States," Association of Unmanned Vehicle Systems International, March 2013; Education Advisory Board interviews and analysis.

# The Few UAV Programs Out There Doing Well

## Emerging Programs Training UAV Builders and Operators

### Northwestern Michigan College *A.A.S., Engineering Technology, UAS<sup>1</sup>*



#### Northwestern Michigan College

#### Engineering Technology

Electrical Studies

Manufacturing  
Processes

Computer Modeling

#### UAS Specialization

Robotics &  
Automation

Remote Operated  
Vehicles

Introduction to UAS

Prepares graduates for work in product improvement, manufacturing, and engineering operations

### Sinclair Community College *UAS Short-term Technical Certificate<sup>1</sup>*



20-25 semester credit hour program covering topics such as:



Mission Planning



Data Management



UAS Operations

Additional noncredit courses in geospatial information, airspace access, precision agriculture, etc. offered face-to-face or online



## Precision Agriculture Programs Start to Sprout



UAV-based precision agriculture program to commence in Fall 2014



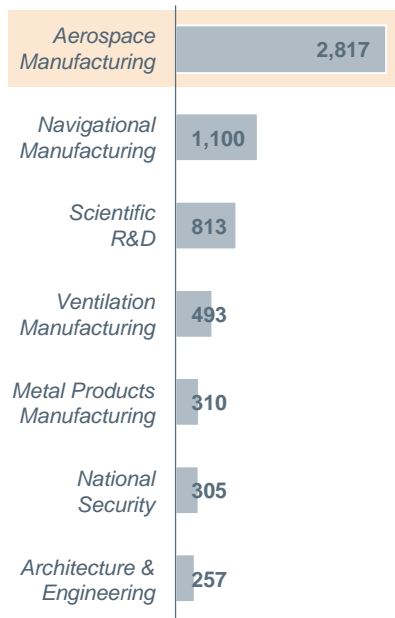
Agriculture students operate UAV simulators pending FAA approval for outside flight

Source: "UAS Training and Certification Center," Sinclair Community College, 2013; "Engineering Technology Program Curriculum," Northwestern Michigan College; "Clark State gets input for new precision ag program," Springfield News-Sun; Dykowski, Sarah, "LRSC, UND Partner to Bring UAS Technology to Classroom," Agweek; Education Advisory Board interviews and analysis.

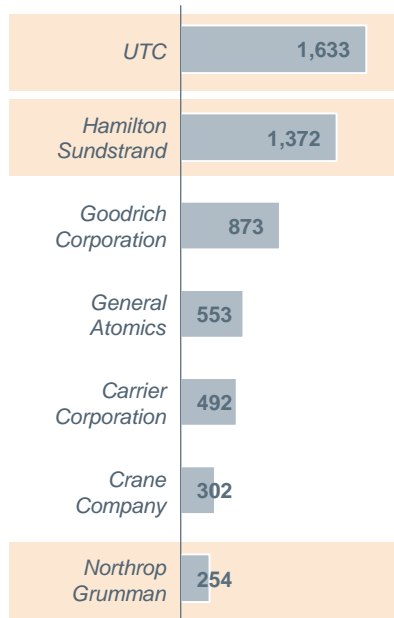
# Where the UAV Jobs Are

Only Aerospace Manufacturing Measurable for the Moment

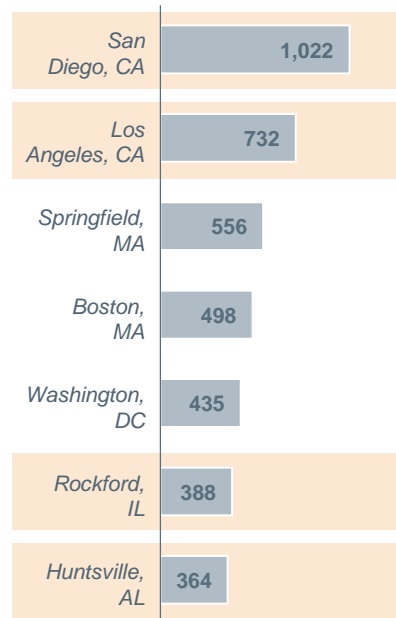
## Top UAV Industries



## Top UAV Employers



## Top UAV MSAs



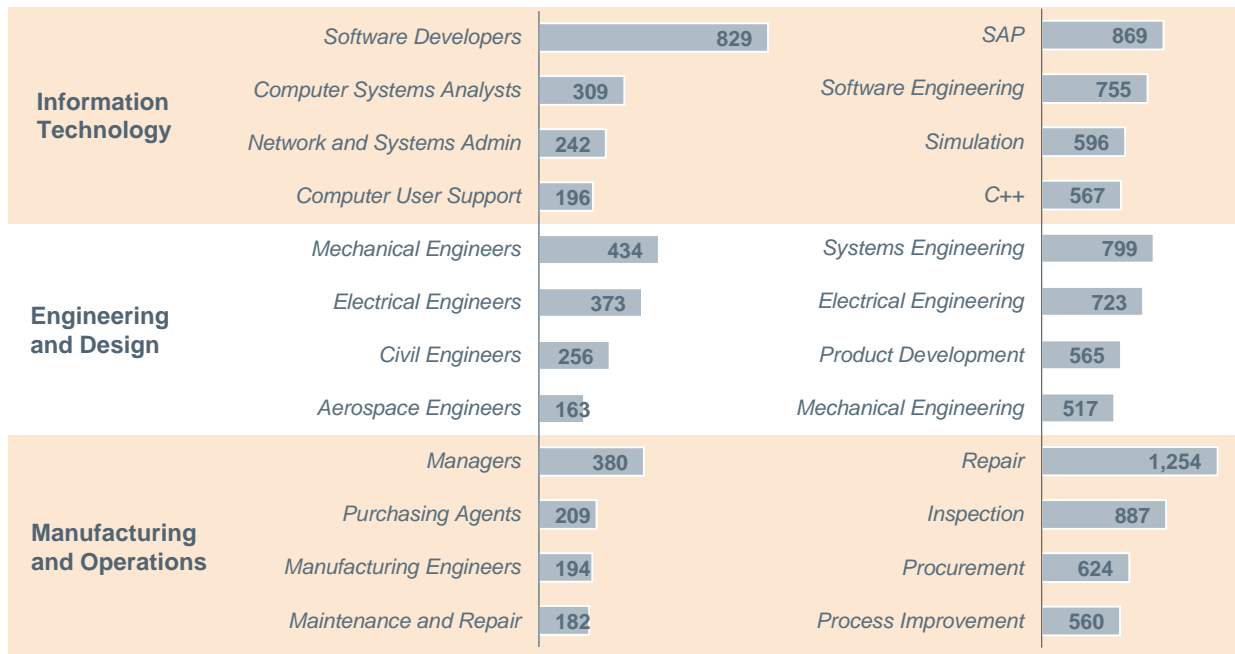
1) Number of UAV-related job postings, January to October 2013.

# Three Emerging Skills Clusters

## Potential Areas of UAV Manufacturing Sub-Specialization

### Top UAV Occupations

### Top UAV Specialized Skills



1) Number of UAV-related job postings, January to October 2013.



# Highlights from Our Best Practice Research

## Deep Bench of Knowledge in Higher Education's Strategic Challenges



### Workforce Development Research Initiatives

#### Industry Futures

Every year we run deep in key industry sectors to help members understand how to prepare their program portfolios for the future.

Our research to date examines the following industries:

- Health Informatics
- Big Data
- Cybersecurity
- Aging Services
- Manufacturing
- Social Media and Mobile Applications

#### Online Education Strategy

- *Understanding the MOOC Trend*: Strategic implications and lessons learned from experiments in large-scale online instruction
- *Engaging Faculty in Online Education*: Training faculty in online pedagogy and new course design models
- *Leveraging Social Media*: Implementation toolkit for creating virtual learning communities and recruiting working adults

#### Academic and Enrollment Planning

- *Accelerated Workforce Training Programs*: Best practice employer partnerships and recruitment strategies for career and technical programs
- *Instructional Capacity Planning and Management*: Removing classroom scheduling bottlenecks and maximizing space utilization
- *Elevating Academic Program Review*: Balancing quality, mission, and financial metrics in academic resource allocation and program launch



### What Resources Can We Send Your Way?



#### Best Practice Studies

- ☐ Industry Futures: Anticipating the Workforce Needs of the Next Decade
- ☐ Smart Growth: Running the Academy by the Numbers
- ☐ Engaging Faculty in Online Education
- ☐ Understanding the MOOC Trend



#### Webconferences

- ☐ Multi-Track Cybersecurity Pathways
- ☐ Additive Manufacturing Programs
- ☐ Postbaccalaureate Certificates for Career Starters
- ☐ Second Careers in Aging Services
- ☐ In the Wake of Health Care Reform
- ☐ Elevating Academic Program Review



#### Online Toolkits

- ☐ Maximizing Space Utilization
- ☐ Disciplining Social Media Strategy

# Immediately Available to Our Members

## Deep Bench of Knowledge in Higher Education's Strategic Challenges

### Campus Priorities

#### Turning High School Partnerships into College Enrollments

- Creating high-return K-12 partnerships and cultivating college navigation skills
- Brokering accelerated career pathways
- Developing a "school of choice" brand

#### Student Outcomes Tracking

- Increasing reporting and analytical capacity
- Assessing student learning outcomes and faculty buy-in
- Lessons learned from early adopters of performance-based funding

#### Meeting the Completion Challenge

- Deepening support services reach through just-in-time initiatives including one-stop shops and emergency loans
- Preparing students for college-level work, focus on eliminating late registration
- Alternative career pathways: stackable certificates, retroactive associates degrees, and community college baccalaureates

### Employer Partnerships and Industry Futures

#### Expanding Corporate Training Programs

- Identifying and recruiting employer partners
- Evaluating program outcomes and securing resources for program expansion
- Rightsizing investments in staff, equipment, and space

#### Industry Futures Spotlights

- Aging services: repositioning the traditional gerontology portfolio
- Manufacturing: rebranding for a design-driven marketplace
- Cybersecurity: expanding enrollments through new on-ramps

#### Market Demand by Military-Friendly Employers

- Key skills and competencies desired by military-friendly employers
- Top industries and occupations for veteran-friendly employers

### Maximizing Student Success

#### Strengthening Hispanic Student Success

- Enlisting parents and families as completion coaches
- Maximizing financial aid reach and impact
- Implementing low-cost initiatives to build college-ready behaviors among incoming students

#### Optimizing Academic Advising

- Advising at community colleges: self-contained, faculty-only, or total-intake models
- Key training for professional advisors and upskilling tactics for faculty advisors
- Identifying learning outcomes and developing program assessment plans

#### Reengineering Developmental Math

- Lessons learned from 200+ redesigns
- Maximizing the return from flipped classrooms and determining optimal student mathpath
- Integrating developmental support with career training

# Immediately Available to Our Members

Access to Research from Four Year Universities and Health Care

## Operational and Administrative Efficiencies

### Playbook for Immediate Labor Savings

- 100 ideas for immediate savings through cost rebasing
- Opportunities vetted by savings potential, employee tolerance, and scope of collective bargaining agreements

### Optimizing Institutional Budget Models

- 29 budget elements and detailed case studies
- Diagnostic tools to help institutions identify best, strategic allocation systems for their campuses

### Alternative Revenues in Higher Education

- 200 ideas for growing revenues, including campus operations and facilities
- Tactics for turning cost centers into revenue producers

## Online Education Strategy

### Understanding the MOOC Trend

- Strategic implications for traditional educational models
- Lessons learned from experiments in large-scale online instruction

### Leveraging Social Media

- 30 tools to help members build an effective and scalable social media strategy
- Self-diagnostic assessments to help identify greatest opportunity for quick improvement

### Engaging Faculty in Online Education

- Identifying the best models for organizing and delivering training in online pedagogy
- Addressing concerns about online course quality without alienating faculty or overspending

## Health Care Resources

### Curricular Alignment in Allied Health Programs

- Challenges and roadblocks in the development of common curricula in the field of allied health
- Tactics for translating clinical or laboratory hours into semester credit hours

### Mapping Nursing Student Education to Future Health Care Needs

- Promoting nursing students' understanding of health across the life span
- Partnering with community organizations to develop non-acute clinical experiences

### Training Medical Assistants for the Advanced Medical Home

- Standardizing foundational frontline medical assistant clinical and administrative skills
- Developing targeted health coach competencies to help medical assistants foster productive patient relationships

# Research Agenda 2015-2016



Helping Members Address Critical Challenges: Winning Future Enrollments

## Building a Strategic Enrollment Management Function

### Developing Targeted Recruitment Campaigns

*What are the key channels and messages for reaching prospective students?*

- Best-in-class outreach campaigns for “some college, no-degree adults”
- Cost-effective digital marketing techniques to compete with for-profit colleges
- Communicating the community college value proposition: marketing around cost, quality, and employment outcomes

### Leveraging Data and Analytics to Grow the Enrollment Pipeline

*What are the critical data capabilities and the resources needed to attain them?*

- Using data to identify recruitment sweet spots and develop segment-specific initiatives (e.g., international students, veterans, Hispanics)
- Identifying and tracking leading indicators of enrollment and future success
- Developing new models for predictive analytics

## Strengthening our Competitive Advantage

### Developing Next-Generation Employer Partnerships

*What are high-impact tactics to better serve and expand our current employer relationships?*

- Identifying and resolving current employer pain points
- Lessons from private-sector exemplars around business-to-business service strategies
- Streamlining college communication and outreach efforts for community partners

### Increasing Alignment Between Employer Needs and College Programs

*What are the leading models for leveraging industry connections to keep pace in a rapidly changing workforce?*

- Work-based learning 2.0: emerging models for apprenticeships, co-ops, and internships
- Responding to employer and market demand with nimble program launch, maintenance, and closure
- Using real-time labor market data and employer feedback to inform program and curriculum decisions



# Research Agenda 2015-2016



Helping Members Address Critical Challenges: Advancing Our Mission

## Combating Student Success “Initiative Fatigue”

### Hardwiring Retention Accountability Throughout the Institution

*How are leaders tackling staff inertia and campus fatigue while maintaining progress on strategic goals?*

- Implementing critical cross-functional partnerships to expand student services reach
- Increasing the impact of adjunct faculty on student success
- Sunsetting programs, reallocating resources, and making difficult trade-offs to bring successful programs to scale

### Building a Data-Driven College

*How are innovative colleges capturing and using data to inform investment?*

- Recalibrating dashboards from outcomes to leading indicators: lessons learned from early movers on key performance indicators (KPIs)
- Performance-based funding insights and cautionary tales from pioneers and recent adopters
- Leveraging predictive analytics to proactively identify and intervene with at-risk students

## The Sustainable Community College Enterprise

### Expanding Alternative Revenue Streams

*How are leading institutions leveraging fundraising, grant writing, and innovative partnerships to raise additional funds?*

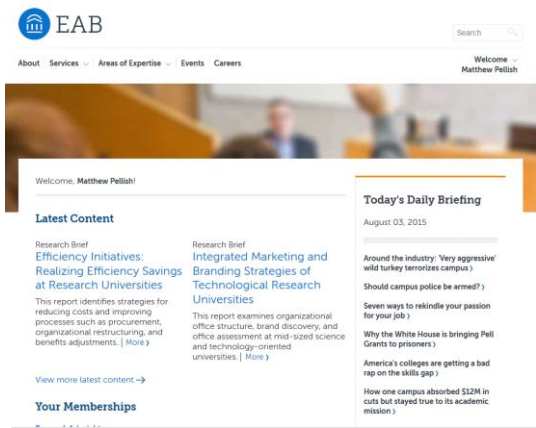
- Generating greater philanthropic support from community partners, national foundations, private donors, and grant-making agencies
- Next generation public-private partnerships
- Best practices in community college foundation and administration and resource allocation

### Realizing Institutional Cost Savings and Process Efficiencies

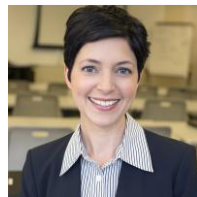
*How are colleges reallocating resources and making trade-offs needed to sustain their core mission?*

- Effective and principled ideas for immediate cost savings
- Selecting and managing third party vendor partnerships
- Understanding the risks and rewards of different college budget models

# EAB Contact Information

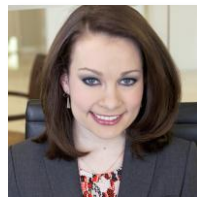


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