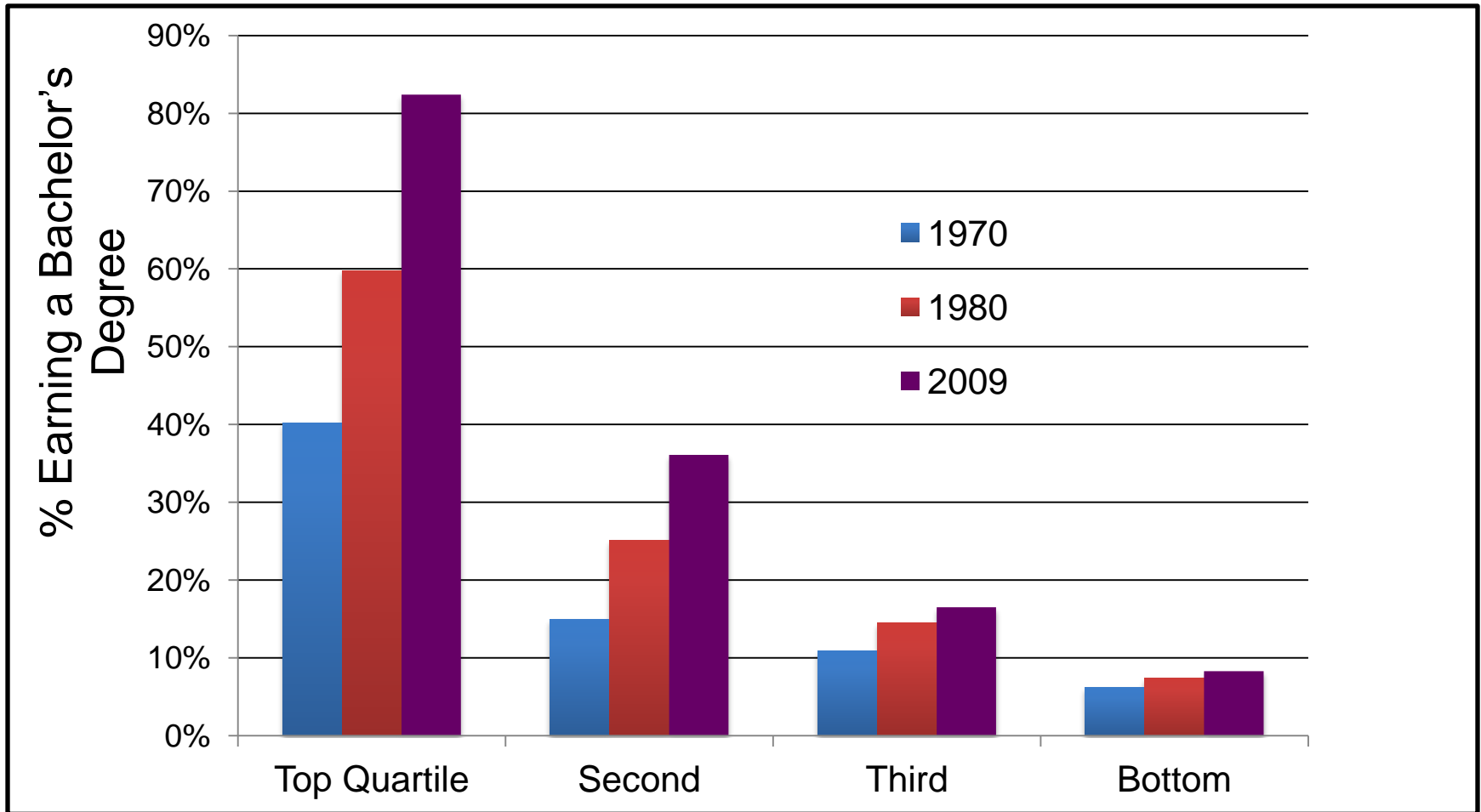


**Guided Pathways  
significantly  
improve graduation  
rates**

**Larry Abele**

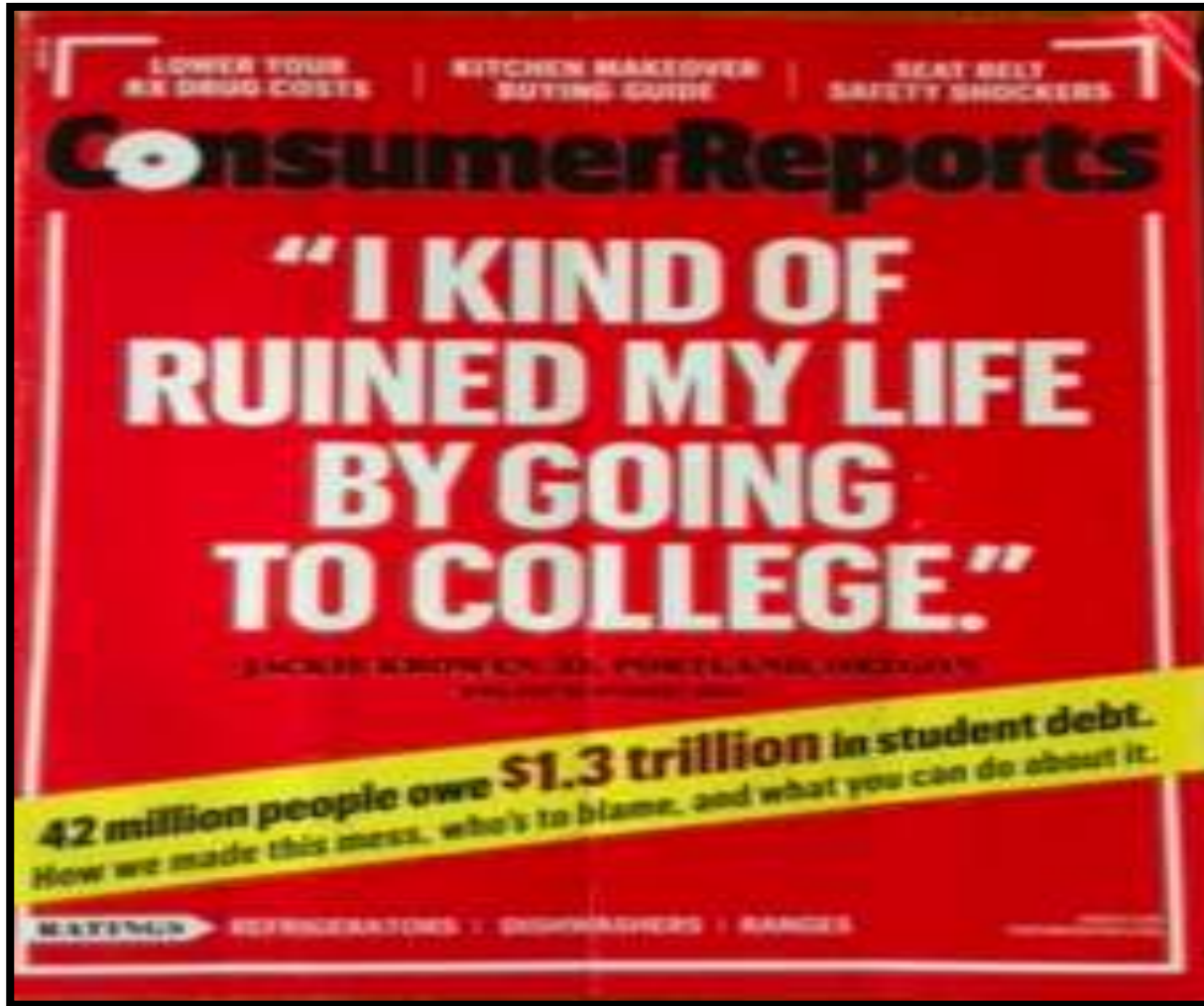
March 2017

# The Education Gap by income has increased significantly since 1970



# A ridiculous headline

(and unlike Consumer Reports to fail to do research)

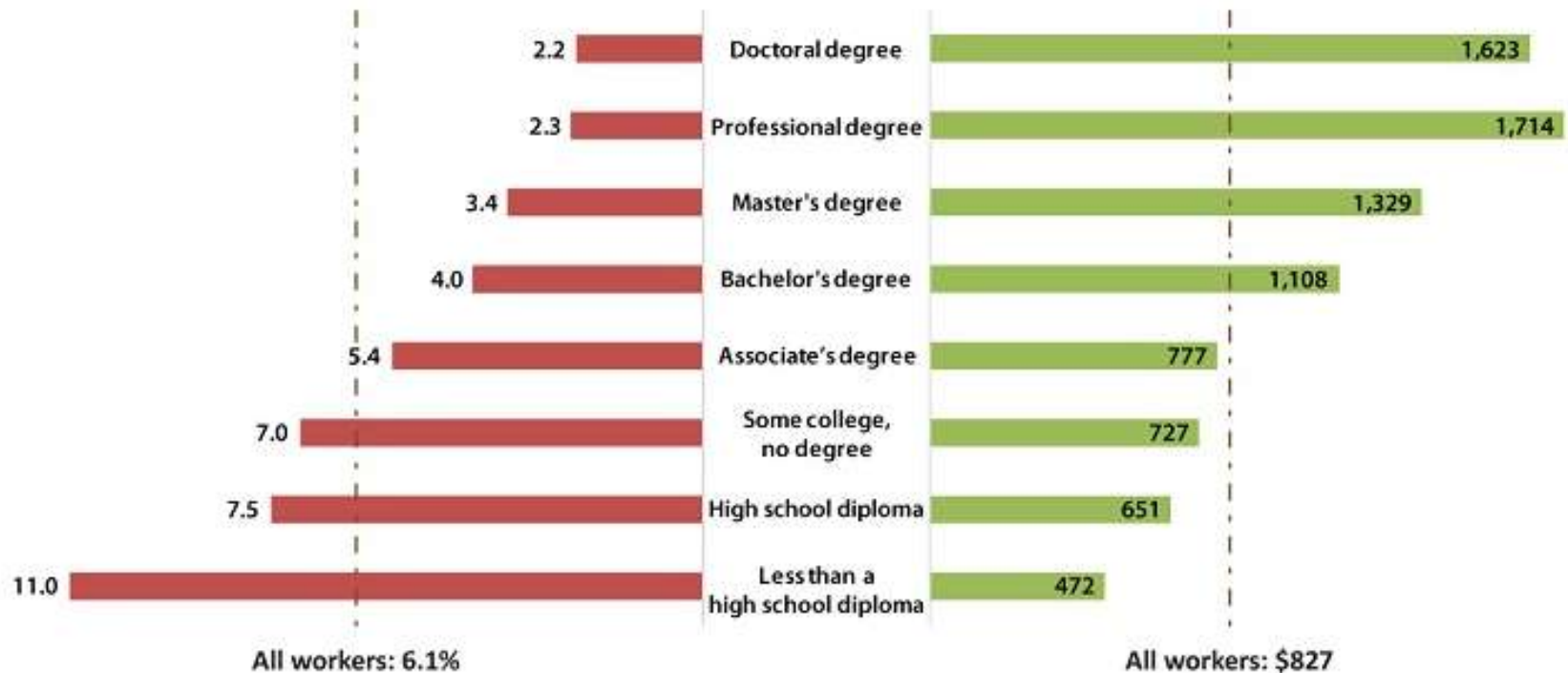


# A college degree is a huge economic advantage

## Earnings and unemployment rates by educational attainment

Unemployment rate in 2013 (%)

Median weekly earnings in 2013 (\$)



Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.  
Source: Current Population Survey, U.S. Bureau of Labor Statistics, U.S. Department of Labor

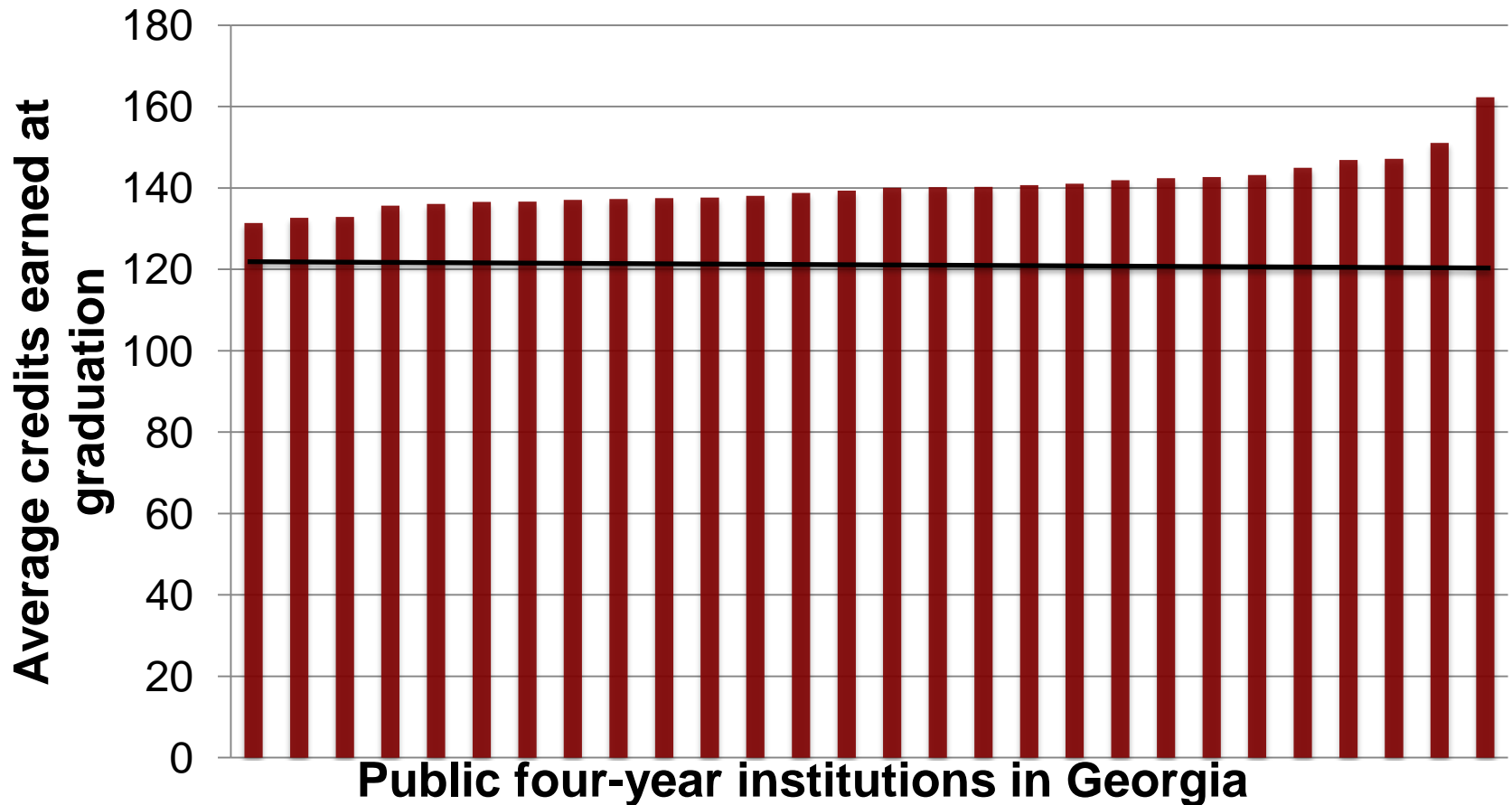
# How do we address these challenges?

- LOW GRADUATION RATE
- TOO MUCH TIME TO A DEGREE
- EXCESS HOURS
- HIGH COSTS
- TOO MUCH DEBT
- EDUCATIONAL INEQUALITY

# Demographics of VSU students

- 8,800 undergraduates; 59% women, 41% male; 84% ≤ 24 years; 51% w, 36% B, 5% H
- 91% receive some form of financial aid
- 47% of First Time in College students receive a Pell Grant, at the national average of 47%
- 47% of all enrolled students receive a Pell Grant
- 65% of entering students have a Federal loan
- 65% of all students have a Federal loan

# Earned credits\* at graduation for Georgia public four-year colleges



\*Note that the actual number of credits is substantially higher since W and F courses are excluded. Source: University System of GA

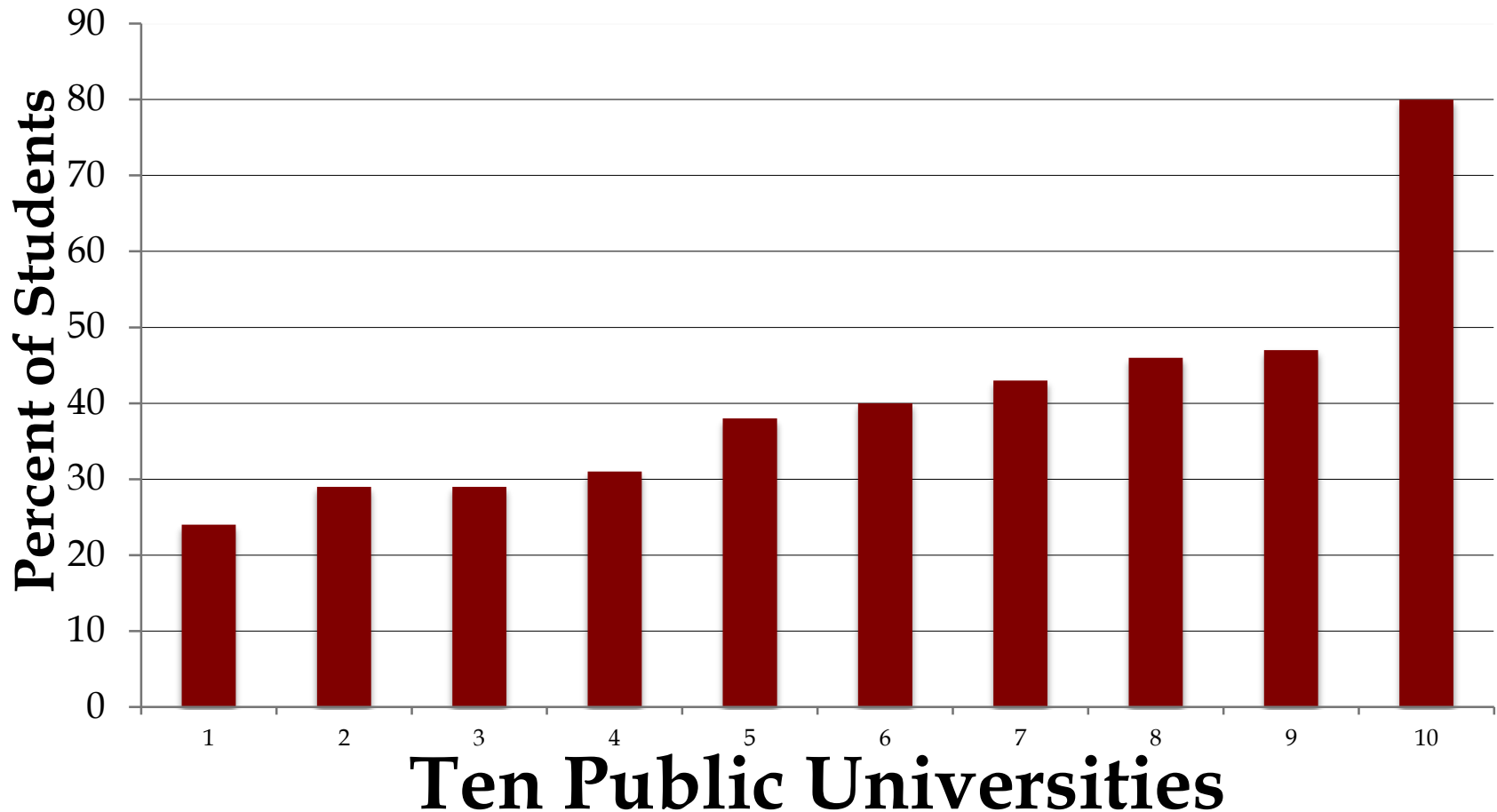
# Student Achievement Measure\*: six year outcomes for students who started at four-year publics

State	Total rate	Starting institution	Different 4-yr	Different 2-yr	Still Enrolled	Not Enrolled
Nat'l	61.16%	48.44%	9.46%	3.26%	14.20 %	24.64 %
<b>GA</b>	60.0% <sup>4</sup>	45.40%	11.23%	3.42%	16.07%	23.89%

Data: National Student Clearinghouse Research Center, Signature Report 10. Shapiro, D., Dundar, A., Wakhungu, P., Yuan, X., Nathan, A & Hwang, Y. , A. (2016, February). Completing College: A State-Level View of Student Attainment Rates (Signature Report No. 10a). Herndon, VA: National Student Clearinghouse Research Center.

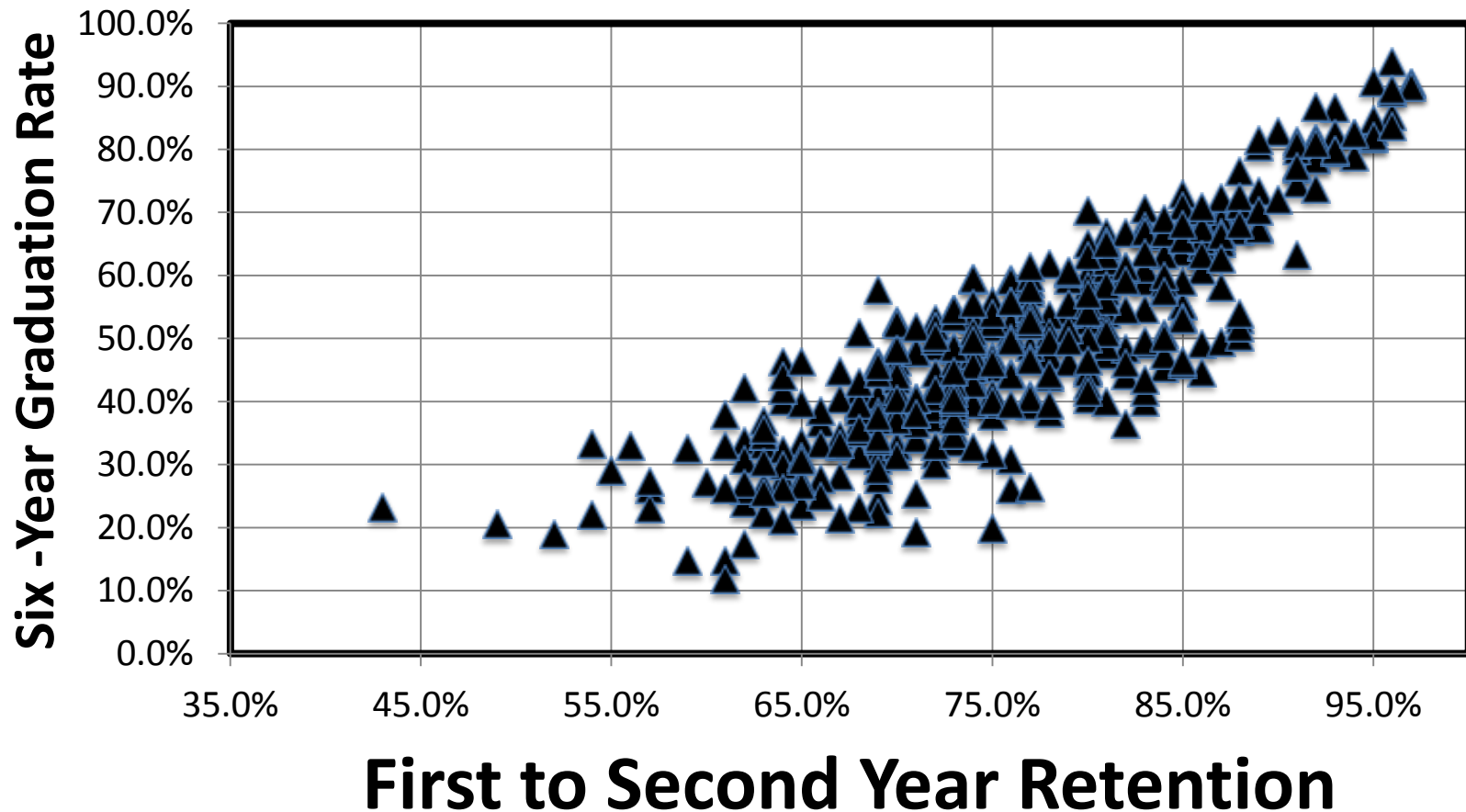


# Institutional policies have a large effect on excess hours



~54,600 students graduating from the SUS in 2011, ~1 million excess hours at a cost of more than \$200 million to students in tuition, at 2011 rates.

Institutional policies also have a large effect  
on graduation rates\*

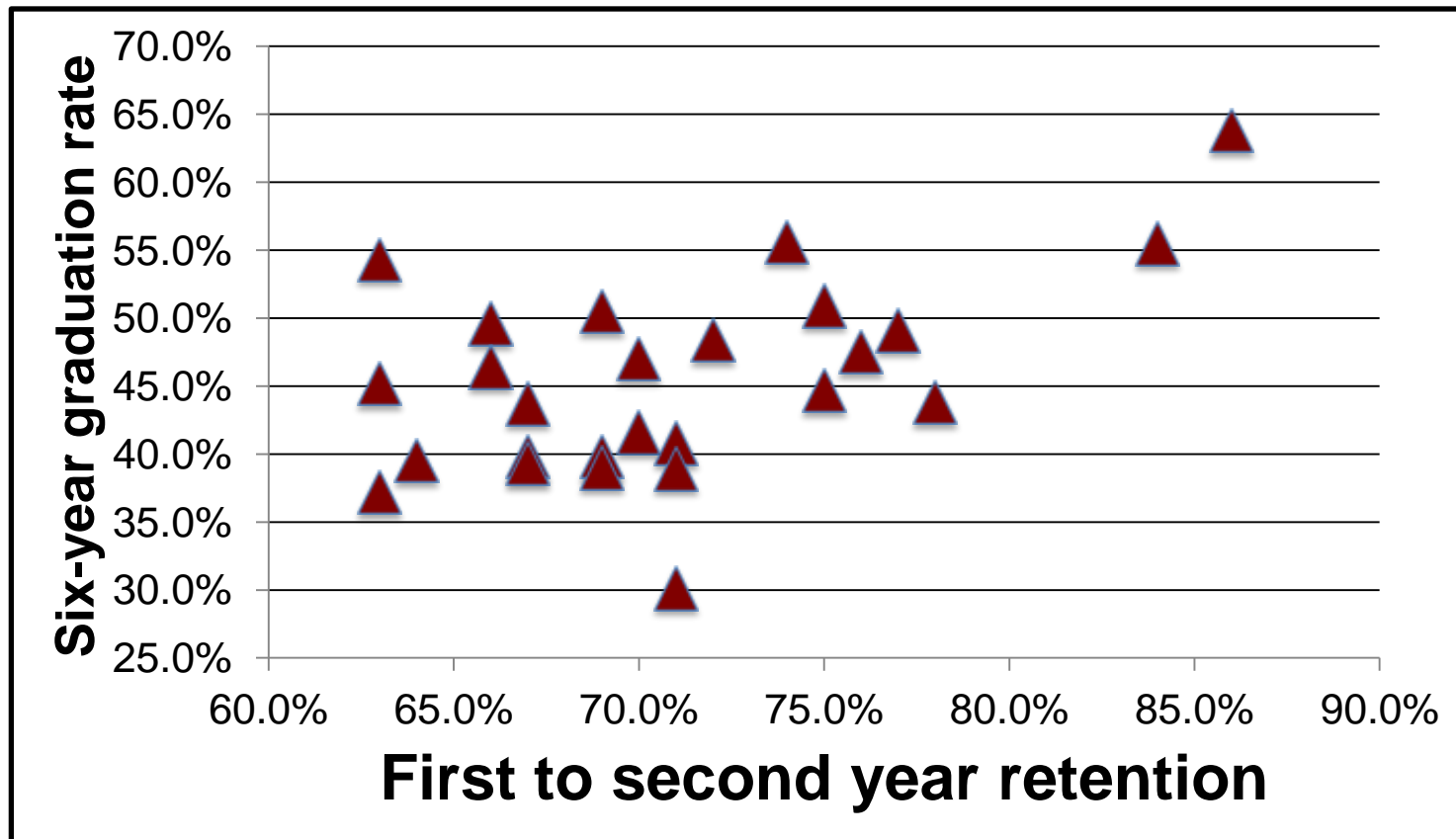


- 2011-IPEDS retention and graduation rates for public universities with an entering class >200, n=525

# Twelve variables used to compare universities

- Standardized test score,
- High school gpa,
- % Pell,
- Selectivity.
- Size,
- Commuter or residential
- Expenditures per student,
- Carnegie classification,
- Age structure of students
- Public or private
- % STEM degrees ,
- % Part-time

# Universities with similar characteristics can differ significantly in graduation rates



25 similar institutions based on 12 variables: standardized test score, high school gpa, % Pell, selectivity. Size, commuter or residential, expenditures per student, Carnegie classification, age structure, public, % STEM degrees, %PT

Academic Maps are the solution to almost all of our challenges: excess hours, time to degree, high costs and low graduation rates **IF AND ONLY IF** policies are developed and implemented

# Guided Pathways to Success

# Why Students Drift, Accumulate Excess Hours and Fail to Graduate

- Insufficient advising
- Catalogs are difficult to understand
- General Education requirements are confusing
- A “Hold on registration” results in lost courses
- Cannot enroll in the required class: not enough seats, not offered, time conflicts with other classes, etc.
- Do not understand course prerequisites and/or course sequencing
- Course withdrawals, repeats, and failures
- Changing majors late in academic career



# Tennessee General Education requirements

Area	Hours	Required Number of Courses	Number of Courses that fulfill the requirement
Communications	9	3	21
History	6	2	6
Humanities	9	3	70
Mathematics	3	1	21
Natural Science	8	2+lab	66
Social & Behavioral Science	6	2	29
<b>TOTAL</b>	<b>41</b>	<b>13+lab</b>	<b>~213 Choices</b>

<http://www.apsu.edu/general-education/general-education-courses>;

<http://catalog.utk.edu/content.php?catoid=16&navoid=1632>

[http://catalog.southwest.tn.edu/preview\\_program.php?catoid=12&poid=956&returnto=324](http://catalog.southwest.tn.edu/preview_program.php?catoid=12&poid=956&returnto=324)

# Texas Core Curriculum (42 hours)

Area	Hours required	Course Options (n=127)
First Year Experience	3	1
Communications	6	2
Mathematics	3	8
Life & Physical science	6	16
Language Philosophy Culture	3	47
Creative arts	3	22
American history	8	3
Government & Political science	6	2
Social & behavioral sciences	3	20
Area option	3	6



# Georgia General Education

Area	Area name	Hours required (~200 choices)
A1	Communications	At least 6
A2	Quantitative	At least 3
B	Institutional option	At least 3
C	Humanities, fine arts	At least 6
D	Natural science, mathematics, technology	At least 7, including a lab
E	Social sciences	At least 6
F	Lower division degree requirements	18

# GENERAL EDUCATION REQUIREMENTS

(Select 12 courses from this list of more than 300)

## **Basic Liberal Studies Requirements: [2 courses must include the Diversity (D) overlay]**

**English Communication: 6 credits; 3 credits must be in a writing course**

Writing (ECw): ELS 112, 122 (nonnative speakers); HPR 326; WRT 104, 105, 106, 201, 227, 235, 302, 303, 304(D), 305(D), 333.

General (EC): COM 100(D), 110(D); LIB 120; PHL 101.

**Fine Arts and Literature (A): 6 credits; 3 credits in Fine Arts and 3 credits in Literature**

Fine Arts: ARH 120(D), 251(D), 252(D); ART 101, 207; FLM 101(D), 203(D), 204(D), 205(D); HPR 105, 124, 201A, 202A, 324; LAR 201; MUS 101(D), 106(D), 111, 292(D), 293(D); PLS 233; SPA 320(D); THE 100, 181, 351(D), 352(D), 381, 382, 383.

Literature: AAF 247(D), 248(D); CLA 391(D), 395(D), 396(D), 397(D); CLS 160(D); ENG 110(D), 160(D), 241(D), 242(D), 243(D), 247(D), 248(D), 251(D), 252(D), 260(D), 262(D), 263(D), 264(D), 265(D), 280(D), 300(D), 302(D), 303(D), 304(D), 317(D), 355(D), 357(D), 358(D); FRN 309(D), 310(D), 320(D), 391(D), 392(D), 393(D); HPR 105, 125, 201A, 202A; RUS 391(D), 392(D); SPA 305(D), 306(D), 307(D), 308(D); WMS 317(D).

**Language/Culture (FC): 6 credits**

- Demonstration of competence through the intermediate level by examination or successfully completing through 104 (living language) or 302 (classical language)
- Two-course sequence (or one course at the 113 level) in a previously studied language through at the appropriate level (all D): ARB 103, 104; CHN 103, 104; FRN 103, 104; GER 103, 104; GRK 301, 302; HBW 103, 104; ITL 103, 104, 111; JPN 103, 104; LAN 193, 194; LAT 301, 302; POR 103, 104; RUS 103, 104; SPA 103, 104, 111, 113, 210.
- Two-course sequence (or one course at the 111 level) in a language not previously studied (or studied for less than two years in high school) through the beginning level: ARB 101, 102; CHN 101, 102; FRN 101, 102; GER 101, 102; GRK 101, 102; HBW 101, 102; ITL 101, 102; JPN 101, 102; LAN 191, 192; LAT 101, 102; POR 101, 102; RUS 101, 102; SPA 101, 102.
- Study abroad in an approved program for one semester
- Major in a foreign language
- Formerly registered international students, students with recognized immigrant status, or naturalized citizens (at Dean's discretion)
- Two courses in Cross-Cultural Competence: CPL 300(D); FRN 309(D), 310(D), 320(D), 391(D), 392(D), 393(D); HIS 132(D), 171(D), 172(D), 180(D), 311(D), 327(D), 374(D), 375(D); HPR 201F, 202F; LET 151L(D), 151Q(D), 151R; NRS 300; PHL 331(D); RLS 131(D); SPA 320(D), TMD 224(D); six credits of a full-semester approved Intercultural Internship in a foreign country through the Office of Internships and Experiential Education

**Letters(L): 6 credits**

AAF 150(D), 201(D), 355(D), 356(D); APG 327; BGS 392(D); CLS 160(D), 235; EGR 316(D); ENG 110(D), 160(D), 243(D), 251(D), 252(D), 280(D), 355(D), 356(D); FRN 391(D), 392(D), 393(D); HIS 111, 112, 113(D), 114(D), 116, 117, 118(D), 130(D), 132(D), 141(D), 142(D), 145(D), 146(D), 150(D), 160(D), 171(D), 172(D), 180(D), 304, 305, 310(D), 311(D), 314, 323(D), 327(D), 332(D), 333(D), 340(D), 341(D), 346(D), 351(D), 355(D), 356(D), 374(D), 375(D); HPR 107, 201L, 202L, 307; JOR 110(D); LAR 202(D); LET 151L(D), 151Q(D), 151R(D); NUR 360(D); PHL 101, 103, 204, 210(D), 212(D), 215, 217(D), 235, 314, 316(D), 321, 322, 323(D), 325(D), 328(D), 331(D), 346, 355; PSC 341, 342; PSY 310; RLS 111(D), 125, 126, 131(D); WMS 220(D), 315(D), 320(D)

**Mathematics(MQ): 3 credits satisfied by MTH 141**

BUS 111, CSC 101, 201; HPR 108, 201M, 202M; MTH 106, 107, 108, 109, 111, 131, 141; PSC 109; STA 220.

**Natural Sciences(N): 6 credits; satisfied by PHY**

AFS 190, 210, 211; APG 201(D); AST 108, 118; AVS 101(D); BCH 190; BIO 101, 102, 105, 106, 286(D); BPS 201; CHM 100, 101, 103, 112; GEO 100, 102, 103, 110, 113, 120; HPR 109, 201N, 202N; MIC 190; NPS 207; NRS 190; OCG 110, 123, 131; PHY 109, 111, 112, 140, 185, 186, 203, 204, 205, 273, 274, 275; PLS 150, 190; TMD 113

**Social Sciences(S): 6 credits**

APG 200(D), 202, 203(D), 301(D); CPL 202(D); ECN 100(D), 201, 202, 306, 381(D); EDC 102(D); EEC 105, 310, 356; GEG 101(D), 104(D), 202(D); HDF 225; HPR 110(D), 201S, 202S; HSS 130; JOR 110(D); KIN 123(D); LIN 200(D); MAF 100; NUR 150(D); PSC 113(D), 116(D), 274(D), 288; PSY 103(D), 113(D), 232(D), 235(D), 254(D), 255(D); SOC 100(D), 212(D), 230(D), 240(D), 242(D), 274(D); TMD 224(D), WMS 150(D)

# Partial list of courses fulfilling General Education requirements\*

- Courses in Area A1: ENGL 1101, ENGL 1101H, ENGL 1102, ENGL 1102H
- Courses in Area A2: MATH 1101, MATH 1111, MATH 1113, MATH 1113H, MATH 2261, MATH 2261H, MATH 2262
- Courses in Area B: All PERS courses
- Courses in Area C: ENGL 2111, ENGL 2111H, ENGL 2112, ENGL 2112H, ENGL 2113, ENGL 2113H, ART 1100, ART 1100H, COMM 1100, COMM 1110, DANC 1500, MUSC 1100, MUSC 1120, MUSC 1130, MDIA 2000, THEA 1100, PHIL 2010, PHIL 2010H, PHIL 2020, PHIL 2020H, REL 2020, FREN 1001, FREN 1002, FREN 2001, FREN 2002, GRMN 1001, GRMN 1002, GRMN 2001, GRMN 2002, JAPN 1001, JAPN 1002, JAPN 2001, JAPN 2002, LATN 1001, LATN 1002, LATN 2001, LATN 2002, RUSS 1001, RUSS 1002, RUSS 2001, RUSS 2002, SPAN 1001, SPAN 1002, SPAN 2001, SPAN 2002, SPAN 2002H
- Courses in Area D1: ASTR 1010K, ASTR 1020K, BIOL 1010/1020L, BIOL 1030/104L, BIOL 1951H, BIOL 1952H, CHEM 1010, CHEM 1151K, CHEM 1152K, CHEM 1211/1211L, CHEM 1212/1212L, GEOG 1112K, GEOG 1113K, GEOL 1121K, GEOL 1122K, PHYS 1111K, PHYS 1112K, PHYS 2211K, PHYS 2212K; ASTR 1000, BIOL 1050, BIOL 1060, BIOL 1070, BIOL 1080, BIOL 1090, ENGR 1010, GEOG 1110, GEOL 1110, MATH 1112, MATH 1261, MATH 2620, MATH 2261, PHSC 1100
- Courses in Area D2: PHYS 1111K and PHYS 1112K, PHYS 2211K and PHYS 2212K, CHEM 1151K and CHEM 1152K, CHEM 1211/1211L and CHEM 1212/1212L, BIOL 1107, BIOL 1010/1020L and BIOL 1030/1040L; ASTR 1000, ASTR 1010K, ASTR 1020K, BIOL 1050, BIOL 1060, BIOL 1070, BIOL 1080, BIOL 1090, CHEM 1010, GEOG 1110, GEOG 1112K, GEOG 1113K, GEOL 1110, GEOL 1121K, GEOL 1122K, PHYS 2211K, PHYS 2212K, ENGR 1010, MATH 1112, MATH 2620, MATH 2261, MATH 2262, PHSC 1100
- AREA E: Students will demonstrate knowledge of diversity in individual and social behavior, the structure and processes of the United States government, and the importance of historical changes over time. Courses in Area E: POLS 1101, POLS 1101H, HIST 2111, HIST 2111H, HIST 2112, HIST 2112H, AFAM 2020/WGST 2020, ANTH 1102 or ANTH 1102H, ECON 1500, ECON 1500H, ECON 2105, GEOG 1100, GEOG 1101, GEOG 1102, GEOG 1103, HIST 1011, HIST 1011H, HIST 1012, HIST 1012H, HIST 1013, HIST 1013H, POLS 2101, POLS 2401, POLS 2401H, POLS 2501, PSYC 1101, PSYC 1101H, SOCI 1101, SOCI 1101H, SOCI 1160

# Florida Statute on General Education

- **1007.25 General education courses; common prerequisites; other degree requirements.—**
- General education core course options shall consist of a maximum of five courses within each of the subject areas of communication, mathematics, social sciences, humanities, and natural sciences.

# A PARTIAL LIST OF COURSE REQUIREMENTS FOR A HISTORY MAJOR

(Select at least 2 courses from AMH, WHO, EUH and 1 from ASH)

**EUH 3530. England, the Empire and the Commonwealth (3).** This course offers a history of Great Britain and the Empire-Commonwealth since 1783 and developments within the Commonwealth itself. Some consideration is given to post-World War II changes within Britain and to Britain's foreign affairs.

**HIS 2050. The Historian's Craft (3).** In this course, students learn how to conduct primary source historical research, and turn their research findings into a high-quality paper based on professional history standards.

**HIS 3464. History of Science (3).** This course is a study of the mutually-shaping relationships between social and political ideas and the histories of the various sciences.

**HIS 3491. Medicine and Society (3).** This course examines the development of public health and the history of medicine in the United States from the colonial period to the present. Topics cover changes in the medical knowledge, the medical profession, government responsibilities, and public responses; how individuals accept, modify, or react to medical authority; how race, class, gender, and ethnicity shape health practices and the delivery of medical care; how the health of a community can be protected; and what constitutes a public health hazard.

**LAH 1093. Latin America: A Cross-Cultural History (3).** This course is a cross-cultural history of Latin America focusing on women, Native Americans, African-Americans, mestizos, and mulattoes in historical context. The course does not count as credit toward the history major.

**WOH 1023. The Modern World to 1815 (3).** This liberal studies course deals with the origins and development of political, economic, social, and intellectual antecedents of the modern world from the end of the Middle Ages to 1815. Students who have previous college credit in Western civilization courses covering the same general chronological period cannot receive credit for WOH 1023. May not be taken by students with test credit in European history.

**WOH 1030. The Modern World Since 1815 (3).** This liberal studies course deals with the origins and development of political, economic, social, and intellectual antecedents in the modern world since 1815. Students who have previous college credit in Western civilization courses covering the same general chronological period cannot receive credit for WOH 1030. May not be taken by students with test credit in European history.

**\*AMH 3472. Evolution of Law, Crime, and Justice in American Society: 1865 to the Present (3).** This course serves as an intermediate level survey of the social and political developments in the fields of crime and law from the end of the Civil War to the present. Its focus is on the changing definitions of criminal behavior, regional patterns of crime, the changing nature of punishment, and Constitutional issues relating to crime.

**AMH 3540. Military History of the United States (3).** This course is a survey of both the military experiences and issues in American history. The course analyzes war, its economic issues, technological developments, politics, and other factors that have influenced the military aspects of American history.

**\*AMH 3544. The United States and Vietnam, 1941-1975 (3).** This course examines the involvement of the United States in Vietnam from World War II through the fall of Saigon in 1975 and considers the legacy of this experience for American foreign relations and society.

**AMH 3930r. Studies in U.S. History (3).** This course includes examination of a special topic related to U.S. history. Topics vary. The course may be repeated as topics vary to a maximum of nine semester hours.

**AMH 4110. Colonial America to 1763 (3).** This course studies and compares the founding and development of the English colonies in North America.

**AMH 4130. Revolutionary America, 1760-1788 (3).** This course examines the political, social, and economic history of British America from the end of the Seven Years War to the ratification of the U.S. Constitution. Emphasis is placed on the origins, course, and aftermath of the colonial rebellion that became the American Revolution and led to the founding of the U.S. The course considers the fundamental causes of the Revolution and the many ways in which the former colonies were transformed by the experience.

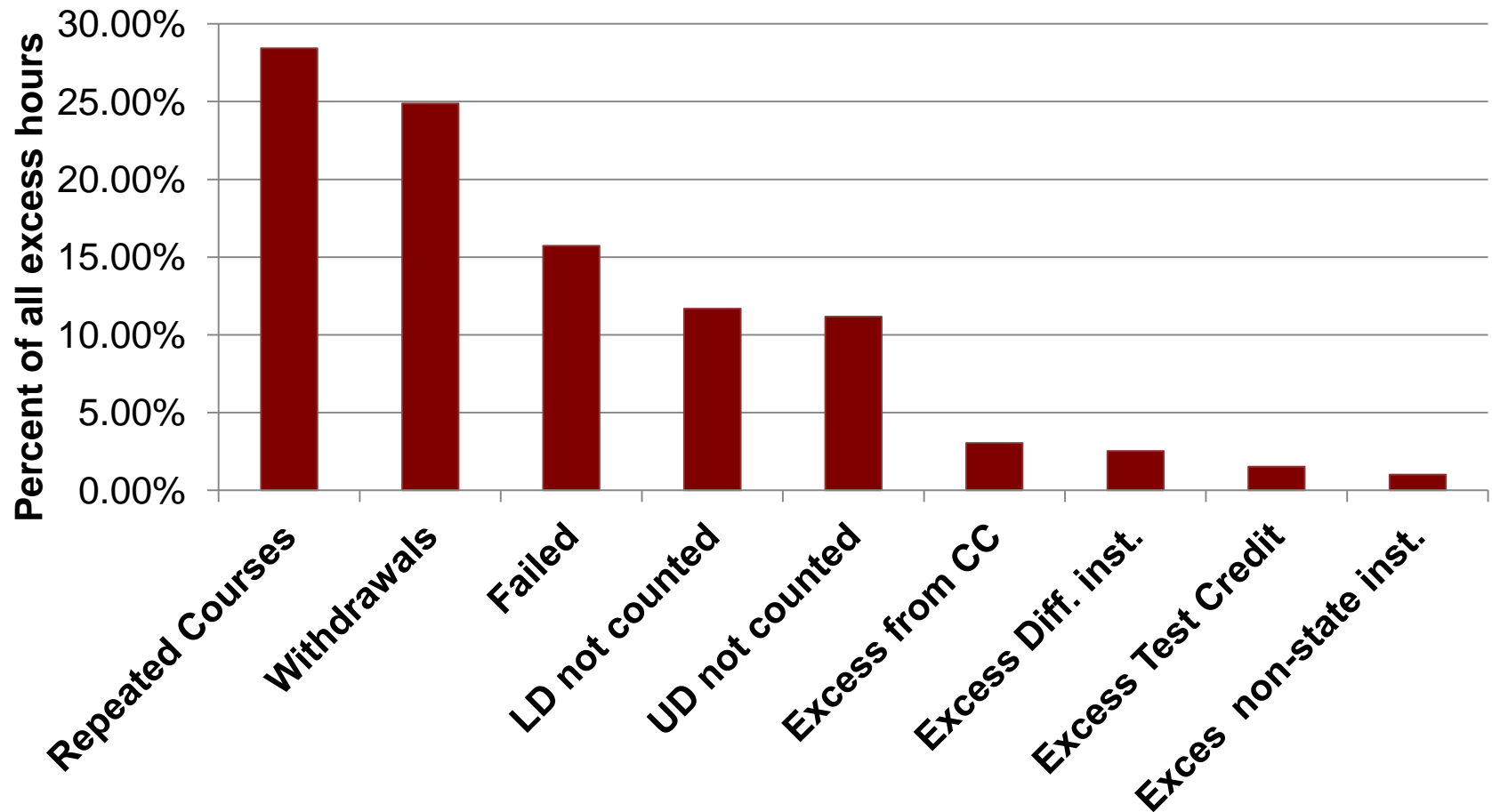
**AMH 4172. The Civil War Era (3).** This course offers an in-depth study of the twenty years from 1845 to 1865. Emphasis is placed on the coming of the Civil War, the secession crisis, and on both the military and nonmilitary events of the war years.

**AMH 4173. Post-Civil War America, 1865-1890 (3).** This course analyzes post-Civil War America with emphasis on the black role in American society and the attempt to heal the wounds of the Civil War. Topics include the rise of big business, labor unions, and the last frontier.

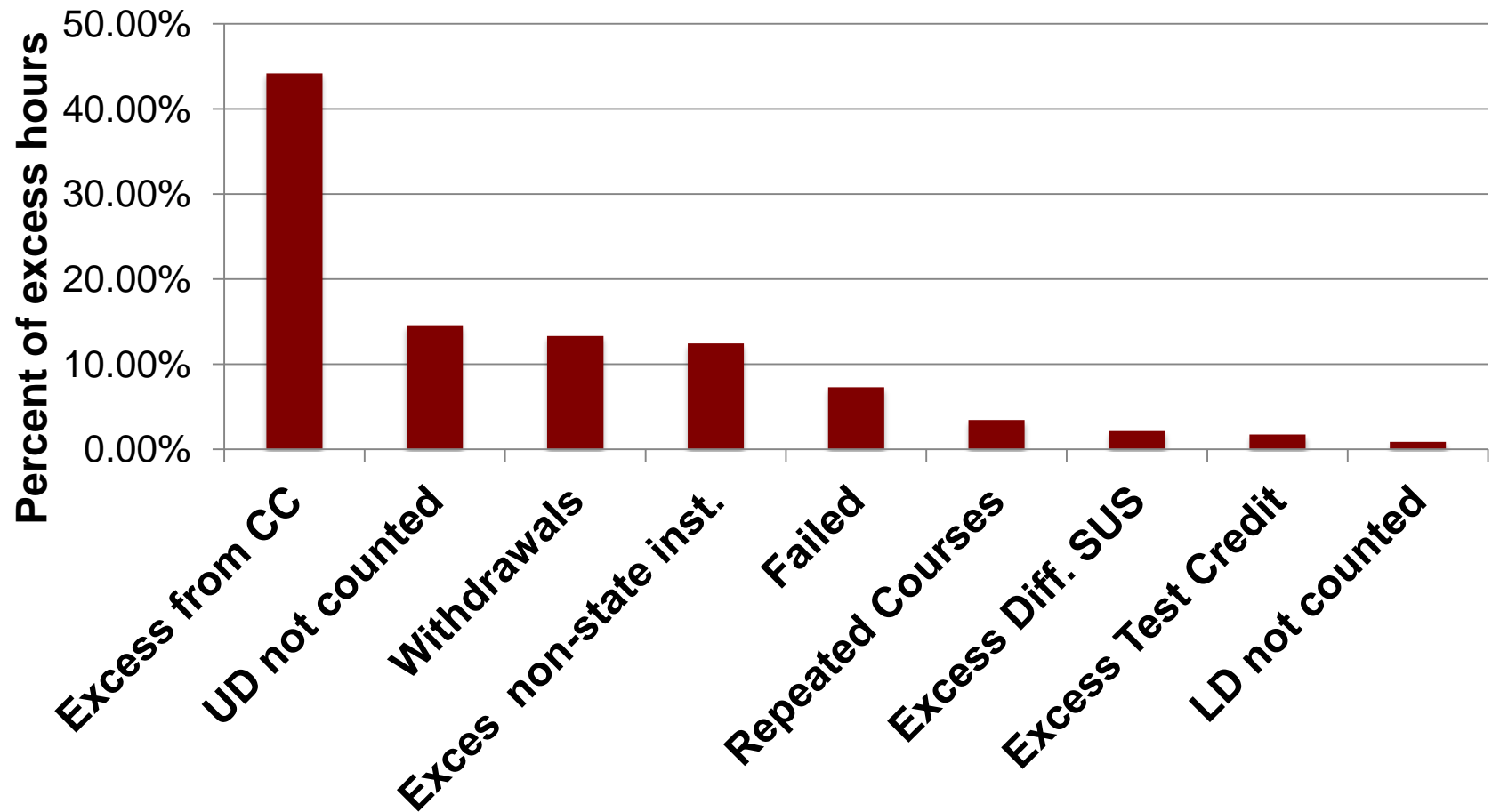
Without guidance or barriers students begin college without enrolling in the appropriate courses accumulating excess hours right from the start and extending time to degree by as much as a year

- 40% of STEM majors do not take any mathematics during their first year in a four-yr. college (n~7,800)
- 49% of STEM majors do not take any mathematics during their first year in a two-yr., college (n~5,600)

Over half of excess hours state-wide for FTIC students are repeats, withdrawal and failures as students struggle in inappropriate courses and/or majors



# AA transfer students have taken too many courses while in community college



State University System of Florida Report on 2002-03 baccalaureate graduates, n=13,495 AA transfer



# A successful implementation of academic maps required a series of steps to achieve the desired results

## Challenge

- Students **could not enroll** in the courses they needed
- Students **lack a clear path** to graduation
- Students continued to take courses that were **not “on map”**

## Solution

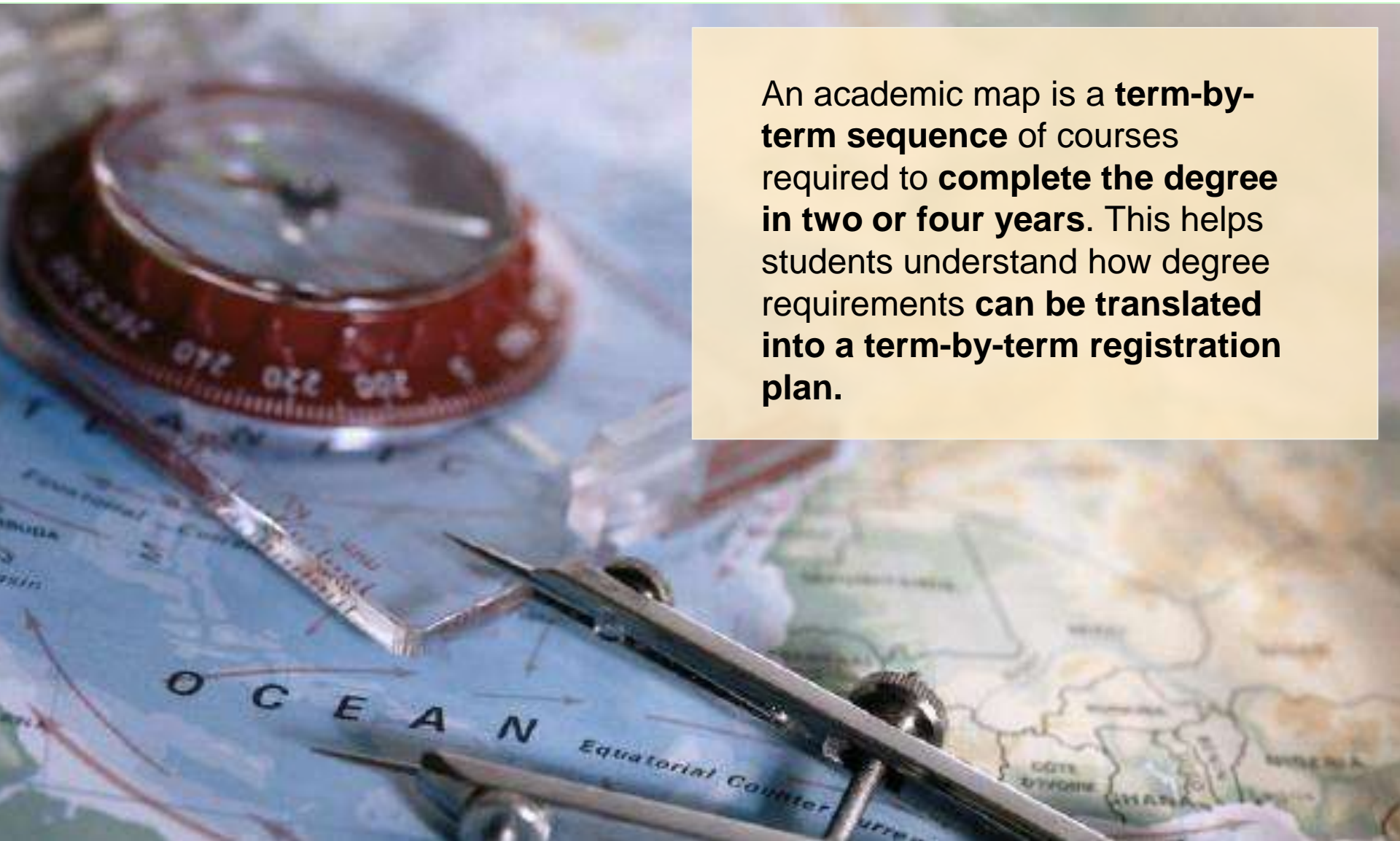
- Built **Demand Analysis** to monitor need and open sections for students
- **Introduced maps** for all majors
- Added **Milestone courses** with hold on class attendance and required students to select **area of interest or major** upon entering

## Results

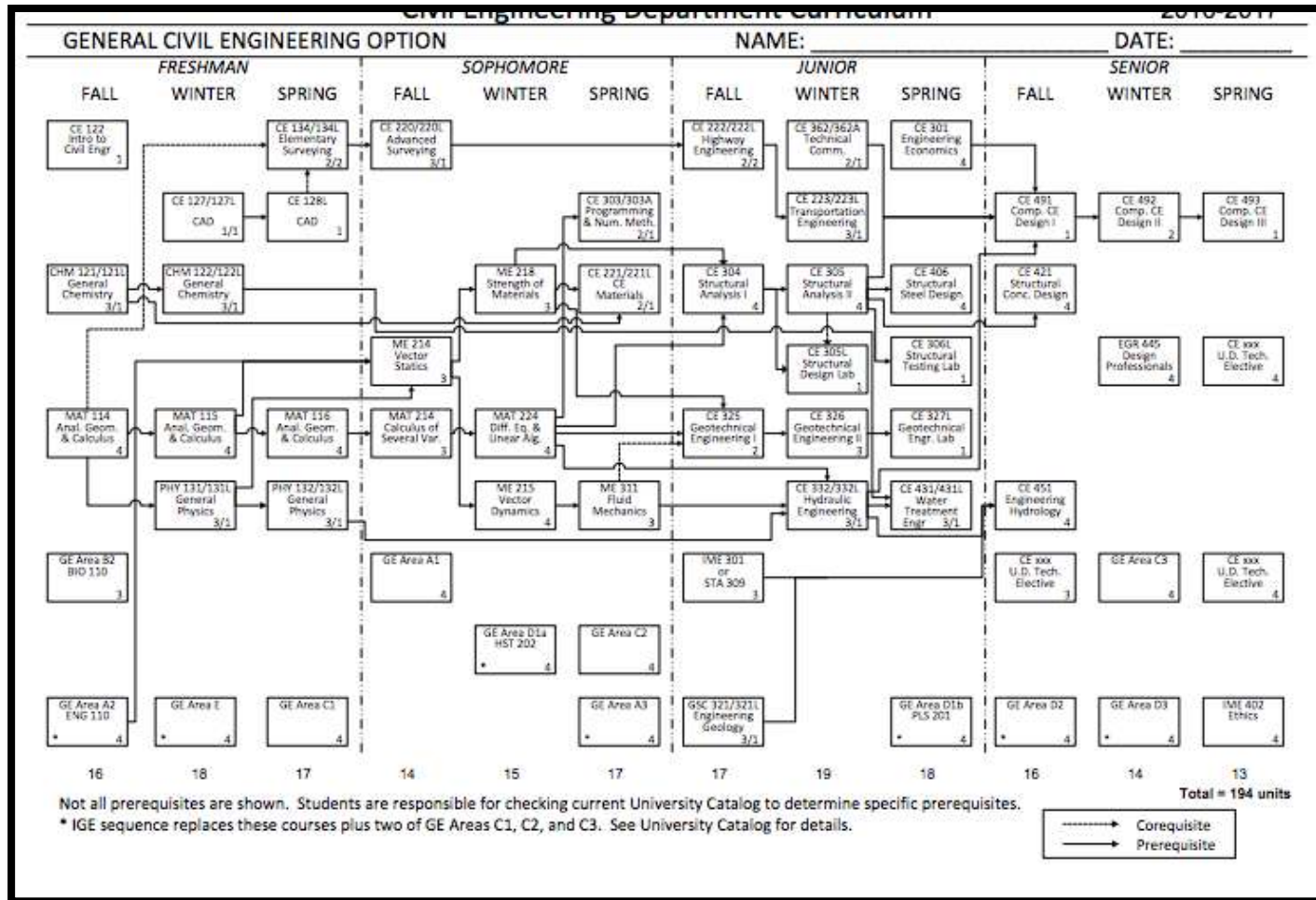
- Small improvement in retention and graduation; **little to no reduction** in excess hours
- Slight improvement in retention and graduation; **no reduction** in excess hours
- **6%** point increase in retention rate and almost **17%** point increase in 4-yr. graduation rate; number of students with >120 hours decreased from **30%** to less than **5%**

# Academic Maps

An academic map is a **term-by-term sequence** of courses required to **complete the degree in two or four years**. This helps students understand how degree requirements **can be translated into a term-by-term registration plan**.



# Flow chart of courses for Civil Engineering



# Accounting Road Map

<u>Quarter</u>	<u>Fall</u>	<u>Winter</u>	<u>Spring</u>
<b>Year 1</b>	A-2 MATH 140 (B-4) C-1 CSUB 101  <b>17 units</b>	A-1 B-1 D-3 / Local Government MIS 200A  <b>17 units</b>	A-3 C-5 US History  <b>15 units</b>
<b>Year 2</b>	C-2, C-3 or C-4 ECON 220  ECON 201 (D-2)  <b>15 units</b>	B-2 ACCT 220  ECON 202  <b>15 units</b>	Acct 221 BA 300 or ECON 380 (GRE) D-1, D-4, or D-5  <b>15 units</b>
<b>Year 3</b> Junior	ACCT 300 ACCT 303 Upper Core  <b>15 units</b>	ACCT 301 Upper Core BA 374 (Theme 3)  <b>15 units</b>	ACCT 275 ACCT 400 Upper Core  <b>15 units</b>
<b>Year 4</b> Senior	ACCT 360 Upper Core Theme 1  <b>15 units</b>	ACCT 325 or 326 Upper Core GWAR Foreign Language (if necessary)  <b>15-20 units</b>	ACCT 408 BA 490 Theme 2  <b>15 units</b>
<b>184-189 units</b>			

# Sinclair Community College presents courses as defaults in their registration system

## MAP (My Academic Plan)



My Academic Plan for Tanya Sturm

I have worked with an Academic/Faculty advisor at Sinclair to create My Academic Plan (MAP) for achieving my educational goals at Sinclair. I realize that by developing and agreeing to this plan, I am acknowledging my responsibility to follow it and thereby will achieve my academic goals without delay or loss of credits. I understand that deviation from this plan may have negative academic or financial impacts on reaching my stated goals and may void the Pledge to Students made to me by Sinclair. I will contact my Academic Advisor or Counselor if I have any questions or need to make modifications to MAP.

12/WI	12/SP	12/SU
<b>PSY 121</b> <b>PSY 121 - General Psychology I</b> PLAN TO OFFER: FALL WINTER First of a two-course sequence covering: history of psychology, research methods, physiology of behavior, sensation and perception, learning, memory, states of consciousness, and personality theories. Many Sinclair Community	<b>SCC 101</b> <b>SCC 101 - Student Success Experience</b> PLAN TO OFFER: FALL WINTER SPRING SUMMER This course is designed to help new students make a successful transition to Sinclair Community College. Students will learn and apply strategies required for survival in	<b>MAT 101</b> <b>MAT 101 - Elementary Algebra</b> PLAN TO OFFER: FALL WINTER SPRING Brief review of pre-algebra skills; operations with polynomials and rational expressions; simplifying algebraic expressions; solving first degree equations and inequalities and second degree equations by factoring

Any questions should be directed to: Tanya Sturm  
512-3700  
tanya.sturm@sinclair.edu



Accept MAP

Modify MAP

Print MAP

www.sinclair.edu

Students meet with advisors to develop personalized degree maps

Map is loaded into the registration system and courses are presented to student as default courses

Students can opt out and register for other courses, with a warning

# At CUNY Lehman College, entering students are required to choose from pre-built course schedules



During orientation, new students select from among 25-30 pre-made course schedules



**SCHEDULE EIGHTEEN**

ENG110 **English Composition I**  
M,W 12:30 – 1:45

PSY166 **General Psychology**  
T,TH 12:30 – 1:45

ANT212 **Ancient Cultures**  
M,W 11:00 – 12:15

ENG234 **Women in Literature**  
T,TH 11:00 – 12:15

FYI001 **Freshman Seminar**  
M 9:30 – 10:20

Class times fit together and ensure that all new students attempt:

- Fifteen credits
- English Comp I
- Freshman Seminar
- Three general education areas\*

(\* students can make approved substitutions due to prior credit or to explore majors)

## Pre-Professional Options

Special schedules are created and targeted to students preparing for pre-professional majors

**Accounting**  
**Nursing**  
**Pre-med**  
**Teacher Education**

## Second Term Schedules Prepare for Major

Second term schedules feature English Comp II and the introductory courses for popular majors

**Psychology**  
**Sociology**  
**Performing Arts**  
**Business Admin**

Students register during orientation for a pre-made schedule that satisfies a number of GE requirements

Students continue to enroll in blocks of courses together for the second term

Students can opt out and register for other courses, to explore majors

# Florida International University has developed a system for integrating maps into their student advising

## Graduation Success Initiative

The Graduation Success Initiative (GSI) helps students to:

**Explore**  
Find the right major



**Focus**  
Stay on track



**Graduate**  
Finish on time



**Students**



**Advisors**

MyMajorMatch (interest inventory)

Students can take an on-line assessment to gauge their interest and skill across areas

MyMajor (academic maps)

Provide admissions criteria, course sequence, and career opportunities for each major

Differentiated maps for two-year transfer vs. four-year students

My\_e\_advisor (registration flag)

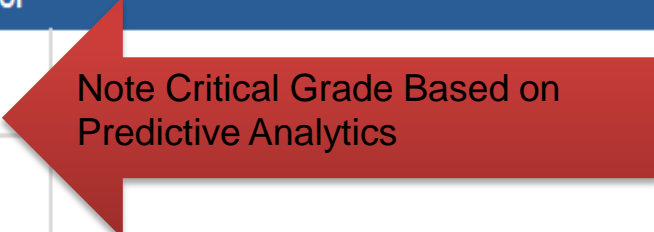
Provides immediate feedback to students and advisors on progress

Alerts students and advisors if students are off-track

# Florida International University lists milestone courses with critical grades

Spring Term 2013

Term Hours: 14  
Cum GPA: 2.000

Course Group	Course Required	Course Description	Credit Hours	Critical Indicator	Course Notes
Common Prerequisites	CHM 1046	Gen Chemistry II	3.00	B	 <p>Note Critical Grade Based on Predictive Analytics</p>
Common Prerequisites	CHM 1046L	Gen Chem Lab II	1.00	B	
UCC English Composition	ENC 1102	Writing and Rhetoric II	3.00		
Common Prerequisites	MAC 2312	Calculus II	4.00	B	Also satisfies UCC Second Quantitative Reasoning course. (1) See endnotes
UCC Social Inquiry - Foundations of Social Inquiry			3.00		(1) See endnotes



# Criminal Justice map: year one

## YEAR 1

Fall	Hrs.
CRJU 1100	3
ENGL 1101	3
MATH 1101 or 1111	3
HIST 2111 or 2112	3
Area C Elective	3
<b>Total hours</b>	<b>15</b>

Spring	Hrs.
CRJU 2500	3
ENGL 1102	3
POLS 1101	3
Lab Science	4
PERS 2XXX	2
<b>Total hours</b>	<b>15</b>

**Milestones:** Complete math requirement.  $\geq 2.0$  GPA. By the end of year 1, you should have: Completed Introduction to Criminal Justice (CRJU 1100) and Written Communications in Criminal Justice (CRJU 2500) courses and completed 30 Credit hours. Completed 30 credit hours.

# Criminal Justice map: year four

## YEAR 4

Fall	Hrs.
CRJU 4100	3
CRJU 4200	3
CRJU 4XXX Elective	3
CRJU 4XXX Elective	3
Guided (Open) Elective	3
<b>Total hours</b>	<b>15</b>

Spring	Hrs.
CRJU 4400	3
CRJU 4800	3
CRJU 4XXX Elective	3
CRJU 4XXX Elective	3
CRJU 4XXX Elective	3
<b>Total hours</b>	<b>15</b>

**Milestones:**  $\geq 2.0$  GPA. By spring of your senior year, you should: Contact and apply for graduate or professional school. Contact professors to write letters of recommendation. Prepare a professional resume. By the end of this semester, you should have: Completed 120 credit hours. Attend graduation.

# Computer Science map: year one

This map is a term-by-term sample course schedule. The milestones listed below each year are designed to keep you on course to graduate in four years. A sample schedule is provided as a general guideline to help you build a schedule each term. Your courses must be selected with your advisor to satisfy all core curriculum and state, lab science, and multicultural requirements. Refer to the Undergraduate Catalog for the most current curriculum.

## YEAR 1

Fall	Hrs.
CS 1010	3
MATH 1113	3
ENGL 1101	3
POLS 1101	3
HIST 2111 or 2112	3
<b>Total hours</b>	<b>15</b>

Spring	Hrs.
CS 1301	4
MATH 2261	4
Area E Elective	3
ENGL 1102	3
PERS 2XXX	2
<b>Total hours</b>	<b>16</b>

**Milestones:** End of semester:  $\geq 2.0$  GPA. End of year: Completed two Math courses. Completed at least one CS course. Completed at least 30 hours.

# Academic Maps: Four essential components—the narrative, sample schedule, milestones, and employment opportunities

## MY GUIDED PATHWAY TO SUCCESS

The narrative explains the **use of academic maps** and any specific information about **degree requirements**, including admissions requirements.

The sample schedule outlines **which courses** should be taken in **which specific term** in order to **satisfy all requirements**.

**Major:**

Requirements for Major

Description of Major

Narrative

1.1

Course Number	Course Title	Credit Hours	Area	Recommended Minimum Grade	Milestones & Notes
ENC 101	English Composition	3			Milestone: Must complete this course this term
MAT 105	College Algebra	3		B	
HIS 201	American History	3			
BIO 105	General Biology	3			
BIO 105L	Biology	1			
<b>Total Hours</b>		<b>16</b>			

The **milestones** identify **critical courses** for timely progress and the last semester in which they can be completed for **on-time graduation**. **Critical grades for Milestone courses may be included.**

Links to **Employment Information**

### Employment Information

National Association of Colleges and Employers

<http://naceweb.org/salary-resources/index.aspx>

Occupational Outlook Handbook <http://www.bls.gov/ooh/>

Build your Future <http://www.onetonline.org/>

A student's grade in their first biology course is predictive of success in biology but not for other majors

GRADE	A	B	C	D	F	W
% graduating in biology	68.4%	49.3%	27.5%	9.8%	7.0%	17.1%
% graduating with any major	87.8%	86.1%	74.8%	78.0%	40.7%	65.7%

# Narrative should have significant student input

## ECONOMICS ACADEMIC MAP

This map is a term-by-term sample course schedule. The milestones listed to the right of each term are designed to keep you on course to graduate in four years. The Sample Schedule serves as a general guideline to help you build a full schedule each term. The Liberal Studies and Elective courses must be selected to satisfy all area, literature, lab, Gordon Rule, and multicultural requirements unless your program meets these requirements with major courses. Milestones are courses and special requirements necessary for timely progress to complete a major. Missing milestones will result in one of two types of map registration stops. The first level (*Degree Map Offtrack*) is placed following grade posting if the student has missed a milestone (course and/or GPA) for the first time in the major. If a student is in non-compliance with milestones for two (2) consecutive semesters (excluding summers), a *Major Change Required* stop is placed on the student's registration.

Economics is a limited-access major. To be admitted into economics, you must have completed at least 52 hours, have earned a "C" or better in ECO2013 and ECO2023, and have the required GPA of 2.5. It is a 36-hour major, including the math and statistics courses, and requires at least a "C-" in all major coursework. The economics major is intended to prepare students for entry into graduate schools and professional schools of law, business, economics, and social sciences. Students learn about the critical issues in economics, the tools needed to analyze those issues and prepare them for entry-level positions in financial, managerial, and administrative areas of the public and private sector. Some of the topics covered include: theory of markets and the price system, the organization of industries, labor supply and its uses, the commercial banking and credit system, government finance, the national income and its production and distribution, economic growth and development, and international trade and finance.

### SAMPLE SCHEDULE

TERM 1	Hrs.
ENC1101	3
MAC1105 or higher mathematics	3-4
LS History	3
CGS2100	3
Elective	3
Total hours	15-16

Total hours	16
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### MILESTONES

TERM 1
Overall GPA 2.5 or higher
Complete MAC1105 or higher
Complete ENC1101

# Narrative: special conditions for accounting

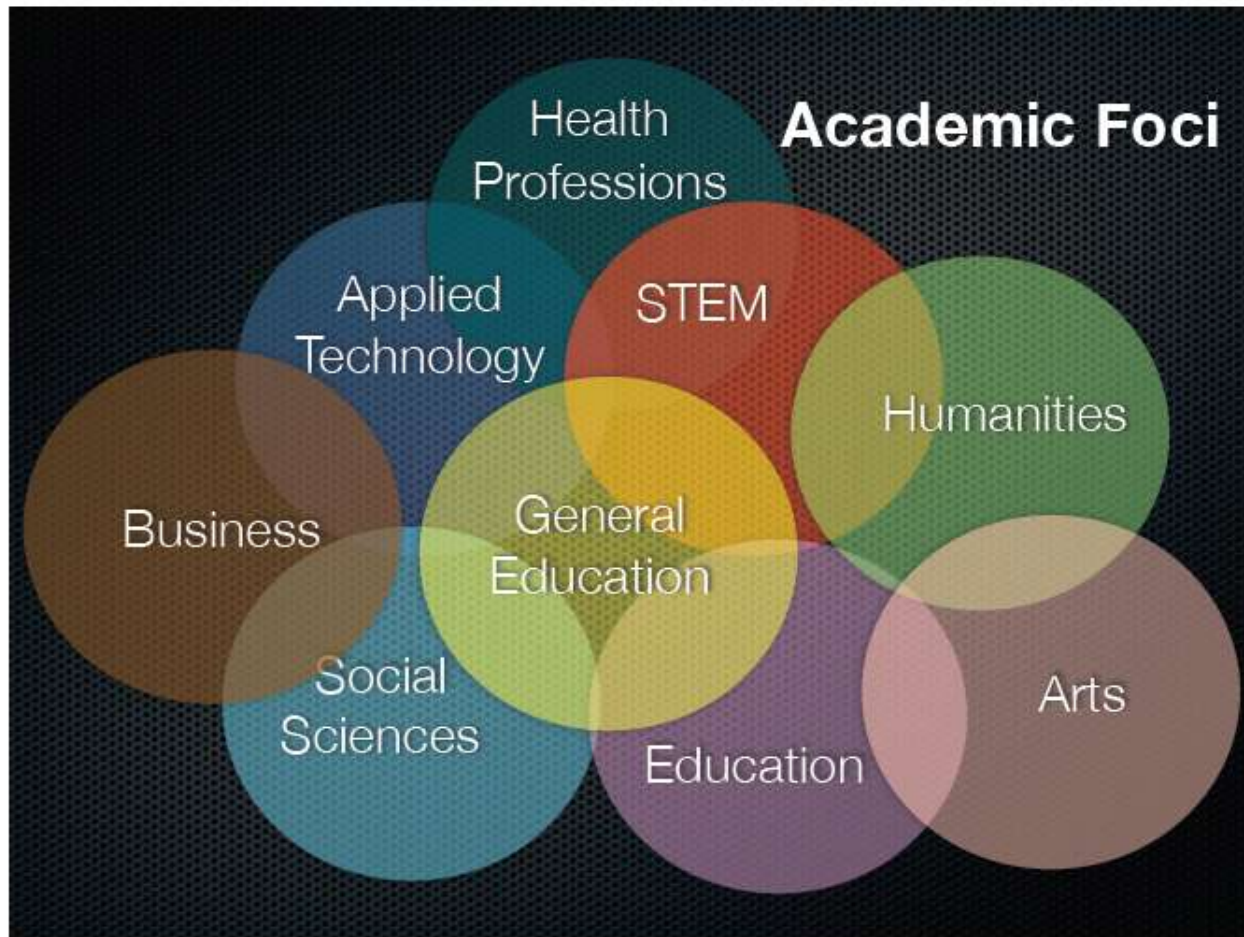
- Accounting is a limited-access major. To be admitted into accounting, you must have completed at least 52 hours, have earned a “C-“ or better in the Admission Prerequisite Courses (**CGS2100, MAC2233, ECO2013, ECO2023, ACG2021, & STA2023**), and have the required overall GPA of 3.0. Electives should focus on gaining additional exposure to the social and behavioral sciences and on improving communication and analytical reasoning skills. There are many specializations within the accounting field. Graduates can go on into challenging positions with only a bachelor’s degree; however, many positions require a CPA certificate. Students planning to work as a CPA in Florida are required to complete a 5-year educational program and should plan on completing the master’s degree in Accounting.

# Academic meta-majors in Florida required by statute





# Tennessee academic areas



# Business meta-major map

## ACADEMIC MAP

This map is a term-by-term sample course schedule. The milestones listed to the right of each term are designed to keep you on course to graduate in four years. The Sample Schedule serves as a general guideline to help you build a full schedule each term. The Liberal Studies (General Education) and Elective courses must be selected to satisfy all area, literature, lab, and other requirements unless your program meets these requirements with major courses. Milestones are courses and special requirements necessary for timely progress to complete a major. Missing milestones will result in one of two types of map registration stops. The first level (*Degree Map Offtrack*) is placed following grade posting if the student has missed a milestone (course and/or GPA) for the first time in the major. If a student is in non-compliance with milestones for two (2) consecutive semesters (excluding summers), a *Major Change Required* stop is placed on the student's registration.

### SAMPLE SCHEDULE\*

TERM 1	Hrs.	Area
Required English course	3	
Algebra or other Pre-calculus	3	
Microeconomics	3	
General Education	3	
Elective	3	
Total Hours	15	

TERM 2	Hrs.	Area
Second English requirement	3	
Calculus	3	
Macroeconomics	3	
Elective	3	
General Education	3	
Total Hours	15	

TERM 3	Hrs.	Area
Statistics	3	
Financial Accounting/Principles I	3	
Microcomputer Applications	3	
General Education (Natural Science)	3	
Business elective	3	
Total Hours	15	

TERM 4	Hrs.	Area
Managerial Accounting/Principles II	3	
Elective	3	
General Education	3	
Elective (Non-business)	3	
General Education	3	
Total Hours	15	

### MILESTONES

TERM 1
Complete required English course
Algebra or other Pre-calculus
GPA of 2.7 or higher

TERM 2
Complete second English course
Complete calculus
GPA of 2.8 or higher

TERM 3
Financial Accounting
GPA of 2.9 or higher

TERM 4
Complete all admission requirements & apply
GPA 2.9 or higher

# Public Safety/Criminology meta-major Map

## SAMPLE SCHEDULE\*

TERM 1	Hrs.	Area
Required English course	3	
Mathematics course	3	
General Education (Science)	4	
Elective (Minor)	3	
Seminar	1	
Total Hours		

TERM 2	Hrs.	Area
Second English requirement	3	
Statistics	3	
Computer Science	3	
Elective (Minor)	3	
General Education	3	
Total Hours	15	

TERM 3	Hrs.	Area
Criminology course	3	
Criminology course	3	
Elective (Minor)	3	
General Education	3	
General Education	3	
Total Hours	15	

TERM 4	Hrs.	Area
Criminology course	3	
Criminology course	3	
General Education	3	
General education	3	
Elective (Minor)	3	
Total Hours	15	

## MILESTONES

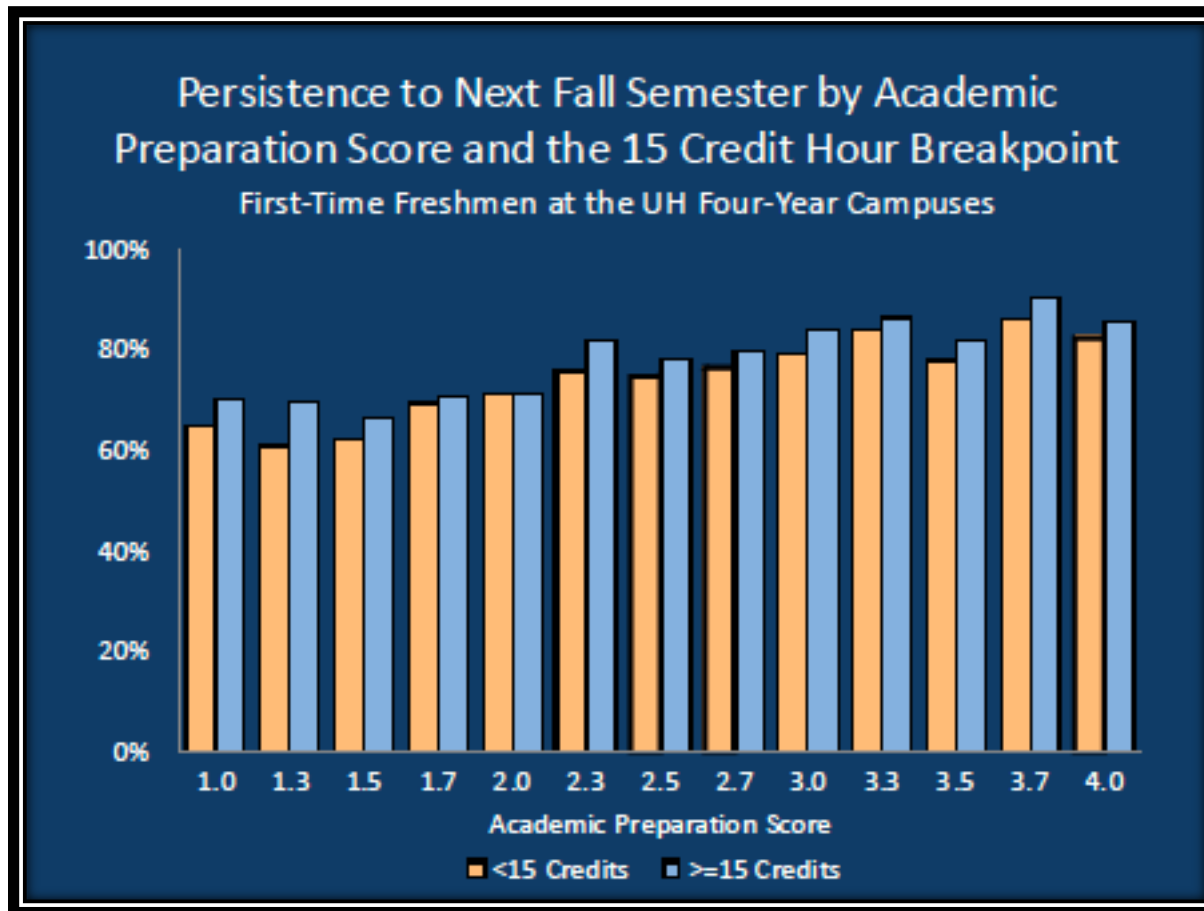
TERM 1
Complete required English course

TERM 2
Complete second English course
Complete Mathematics requirements

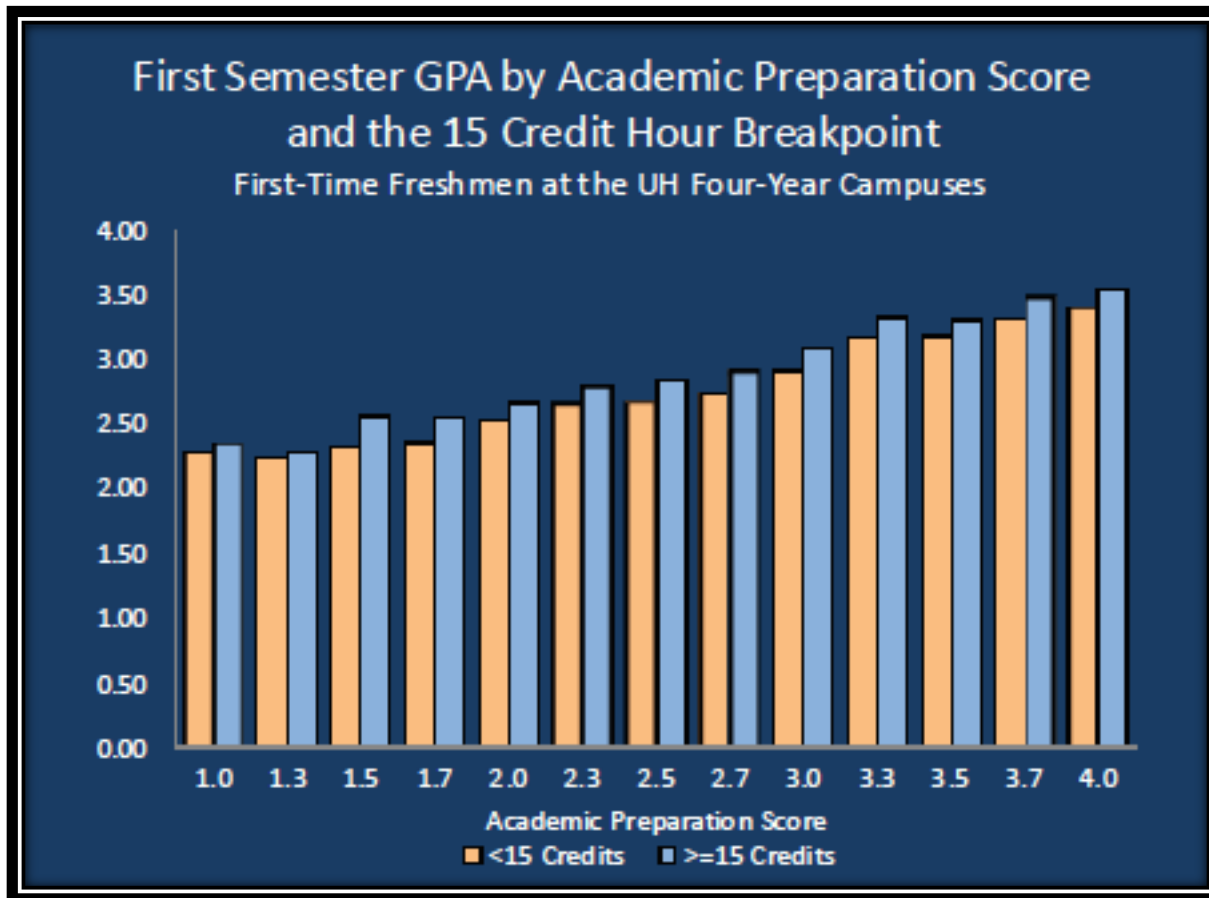
TERM 3
Complete Elective for Minor
Complete Statistics

TERM 4
Complete at least two Criminology courses

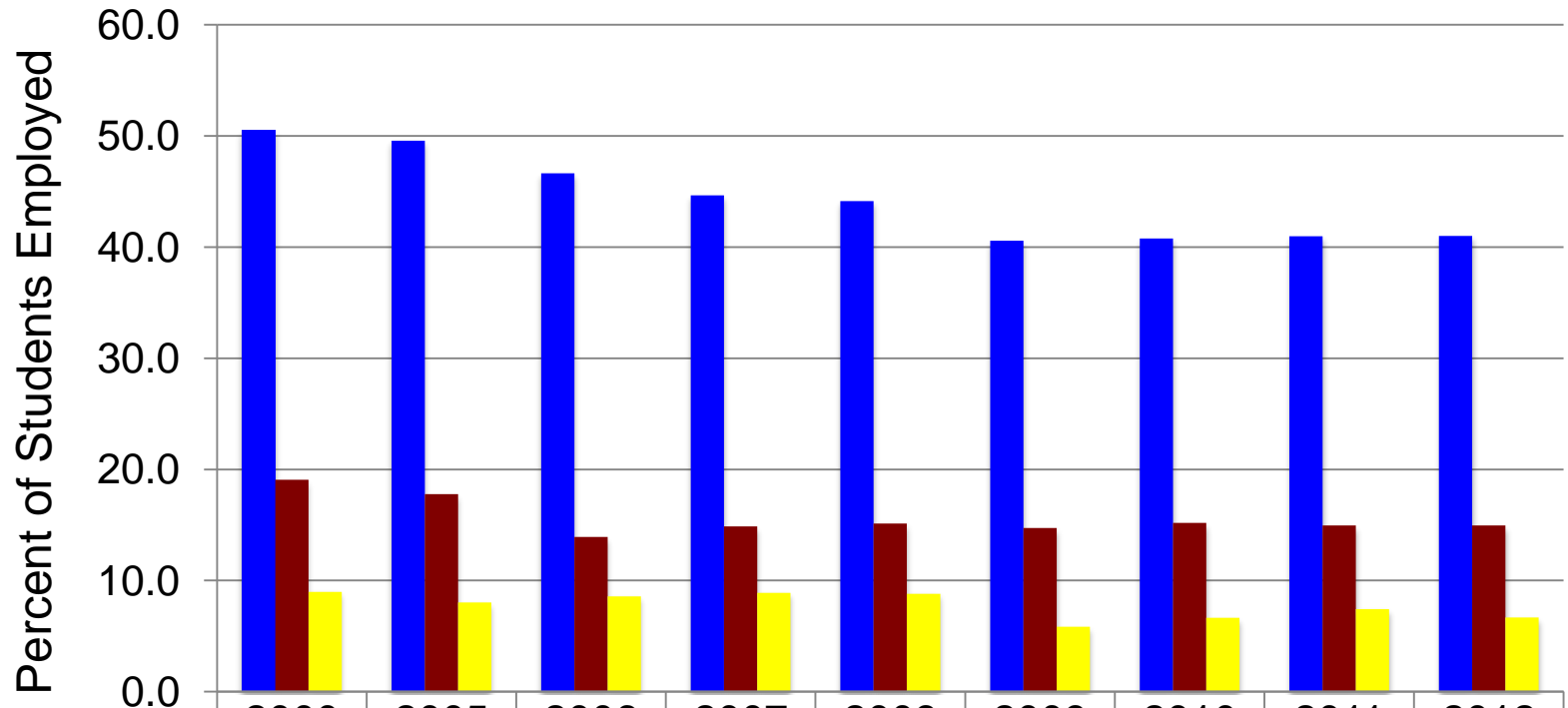
At every level of academic preparation students taking 15 hours had higher retention



At every level of academic preparation students taking 15 hours had higher GPAs



# The majority of full-time\* students at public 4-year institutions are not employed while attending school\*\*



	2000	2005	2006	2007	2008	2009	2010	2011	2012
% Employed	50.5	49.6	46.6	44.7	44.1	40.6	40.8	41.0	41.0
% <20 hrs/week	19.1	17.8	13.9	14.9	15.1	14.7	15.2	15.0	14.9
>35 hrs/week	8.99	8.0	8.6	8.9	8.8	5.8	6.6	7.4	6.7

\*77.2% of students are full-time: Table 303.50, Digest Educational Statistics 2013

\*\*Table 503.20, Digest of Education Statistics 2013

# The Process

- Academic maps begin with the requirements established by the faculty and published in the institution catalog or bulletin.
- The process does not make any changes to the curriculum.
- Requirements are reformatted into a term-by-term sequence of courses required to complete the degree in two or four years.
- **The faculty set the policy on number of repeats for milestone courses before a change in major is required.**
- The faculty have final approval of all maps.

# Key academic policies

- Require early declaration of interest area (a meta-major) or major.
- Require every student without a major to attend a “choosing a major” workshop and have a major selected by 30 hours.
- Establish Milestones for each term (key courses, factors, or events that must be completed by a specific time in order to stay on track). These courses **must be** offered when needed. Monitor Milestones and require a meeting with an advisor if not completed (**=Intrusive Advising**). **Change majors if missed a second time.**
- Rationalize general education requirements.



# Key advising policies

- Assist students with choosing a major through workshops, the Career Center and web resources, e.g., <http://www.bls.gov/ooh/> and <http://www.onetonline.org/>.
- Monitor student registration and grades for milestone courses.
- Every student “off-map” **must be mandated** to meet with an advisor in person (or electronically).
- Students must change majors if they are “off-map” two consecutive terms.

# Key communication policies

- Earning a degree is a two of four year process.
- Maps must be part of every communication with students, staff, faculty and family.
- They must be easy to find and easy to understand.
- Maps must be integrated into every aspect of the academic experience.
- Place maps together to allow students to browse and compare.

# Maps benefit students

- Students save time and money.
- They avoid unnecessary courses.
- They reduce time to degree.
- They always know where they are and where they are going.

Providing students with a clear path to graduation reduces excess hours, significantly reduces costs, and improves time to graduation

<b>Year</b>	<b>Students with Excess Hours</b>	<b>4-year Graduation Rate</b>
2000	7,382	44.2%
2006	3,011	53.2%
2009	1,540	61.2%

All students benefit from Academic Maps, intrusive advising and strong policies

<b>Students</b>	<b>1994 cohort (6-yr rate)</b>	<b>2007 cohort (6-yr rate)</b>
All	60.7%	79.6%
African Americans	56.0%	78.6%
Hispanic	50.8%	79.2%

Source: College Navigator:<http://nces.ed.gov/collegenavigator/?q=florida+state+university&s=all&id=134097#retgrad>; for 2007 cohort IPEDS data center for 1994 cohort

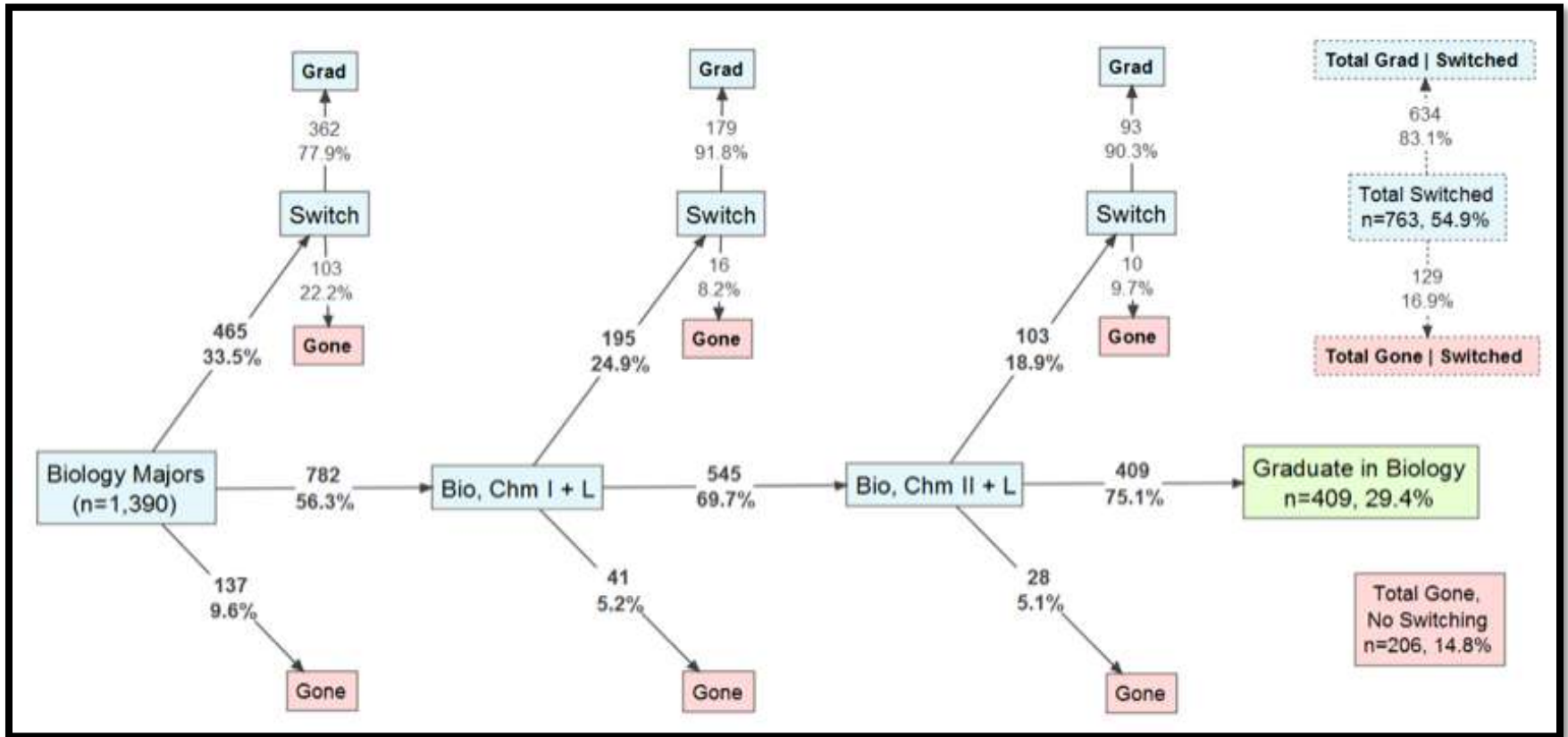
# Maps benefit institutions

- Departments always know the numbers of majors.
- Departments know the courses they will need in the future as well as the number of seats.
- Classrooms can be optimally scheduled.
- Faculty can plan for the future.
- Advisors can be more effectively utilized.

# Milestone Courses by Major and by term

Major	Lower-Division Students	Term 1	Term 2	Term 3
Accounting	588	Algebra	Calculus	Statistics
<b>Biology</b>	<b>1307</b>	<b>Algebra/Calculus</b>	<b>Chemistry</b>	<b>Statistics</b>
Chemistry	188	Algebra	Calculus	Finite Math
Criminology	405	Algebra	Mathematics	Statistics
Dietetics	617	Algebra	-----	Statistics
Economics	93	Algebra	Statistics	Trigonometry
Psychology	637	Algebra	Statistics	Mathematics

# What happens to biology majors over time





# Milestone Courses by Major and by term

Major	Lower-Division Students	Term 1	Term 2	Term 3
Accounting	588	Algebra	Calculus	Statistics
<b>Biology</b>	<b>1307</b>	<b>Algebra/Calculus</b>	<b>Chemistry (n=782)</b>	<b>Statistics</b>
Chemistry	188	Algebra	Calculus	Finite Math
Criminology	405	Algebra	Mathematics	Statistics
Dietetics	617	Algebra	-----	Statistics
Economics	93	Algebra	Statistics	Trigonometry
Psychology	637	Algebra	Statistics	Mathematics

# Discussion of Maps

- Are the degree requirements for all degrees clear?
- What are your challenges?
- Do the maps encourage students to earn 30 credits a year?
- Could someone outside of the institution understand the requirements?
- Are courses named in addition to any codes used by the institution?
- Does the map or pathway include an explanation on how to use the map?
- Are links to possible jobs for this major included?
- Are English and math in the first term?
- Are critical courses identified and explained?
- Are the General Education requirements explained and integrated into the maps?
- Do the maps allow a student to graduate in four years for a First Time in College student and two years for a transfer student?
- What is the faculty policy on course repeats?
- What is your pattern of excess hours?
- Do certain courses contribute disproportionately to excess hours and time?