A Primer on U.S. Higher Education and Vocational & Technical Education

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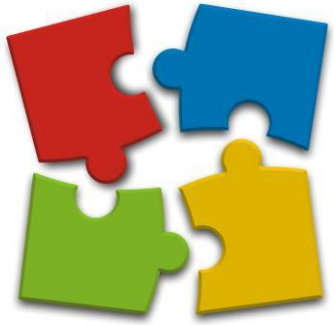
Agenda



- **The ‘Big Picture’**
  - Philosophical Underpinnings
  - Brief History
- **Structure & System of Institutions**
  - Educational Ladder & Degrees
  - Diversity
  - Accreditation
  - Students
- **How it all works**
  - Governance
  - Funding
- **Vocational & Technical Education**
- **21st Century Skills for Students**

The Picture
U.S. Higher Education System

Decentralized

With limited government control

U.S. Higher Education System
Key Philosophical Beliefs

- Belief in limited government and freedom of expression
- Belief in capitalism and rationality of markets
- Belief in equal opportunity and social mobility
- Belief in value of general/liberal education at the undergraduate level

Partially taken from Diversity, Access, & the Role of the Marketplace, ACE, 2004

Brief History

Early Universities in the World

1076: University of Bologna

1117: Oxford University

1170: University of Paris

Medieval Curriculum:

Grammar, Logic, Rhetoric

Arithmetic, Geometry, Astronomy, Music

Harvard University
First American University, Founded in 1636
(Harvard in 1828)

Early U.S. Universities
Colonial Colleges (1640-1800)

Harvard: founded 1636, Puritan
William and Mary: 1693, Anglican
Yale: 1701, Congregational (Puritan)
Pennsylvania : 1740, nonsectarian (Anglican)
Princeton: 1746, nonsectarian (Presbyterian)
Columbia: 1754, Anglican
Brown: 1764, Baptist
Rutgers: 1766, Dutch Reformed
Dartmouth: 1769, Congregational (Puritan)

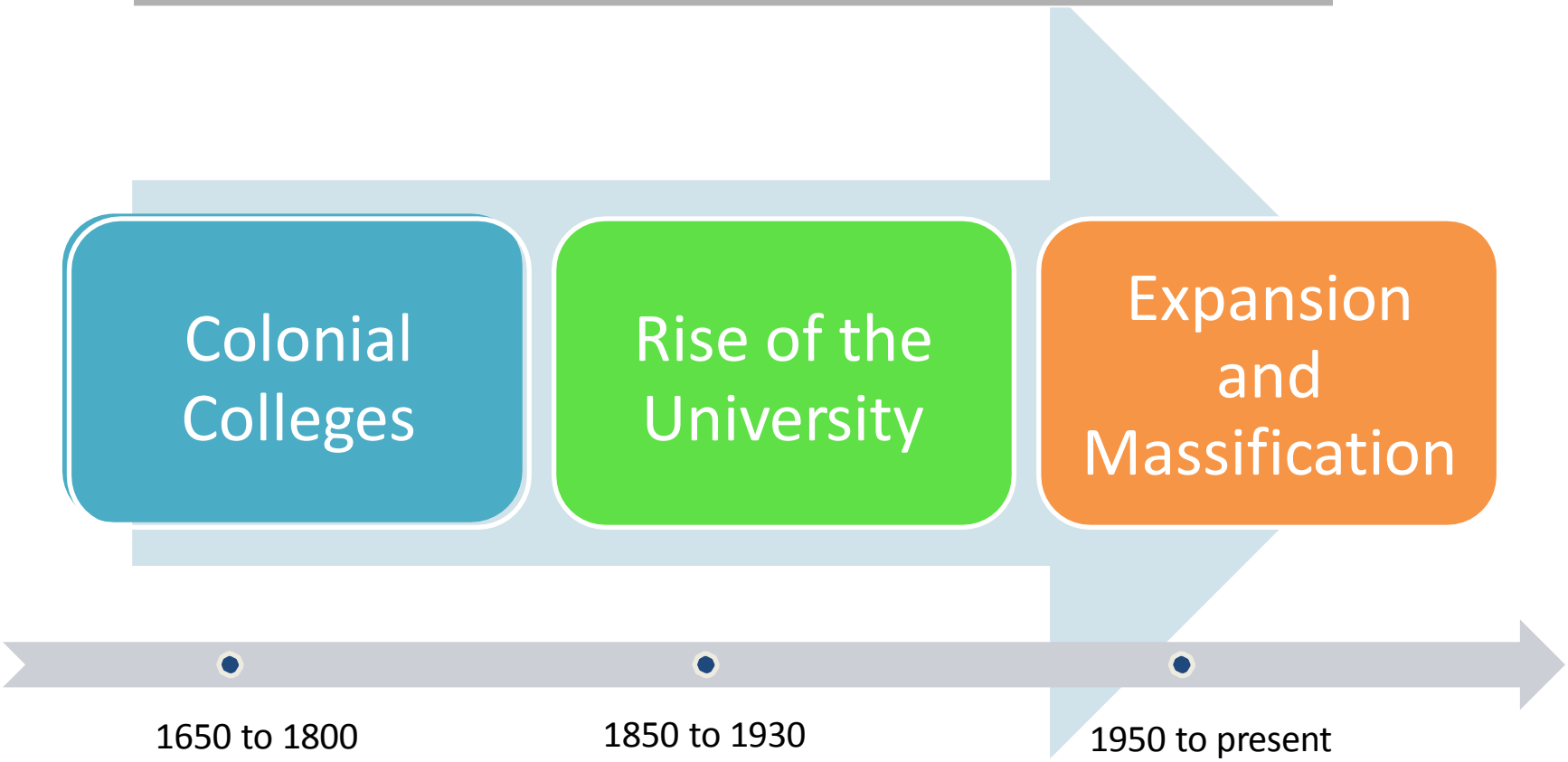
Early Public Colleges and Universities

- *North Carolina, 1789/1795*
- *Georgia, 1785/1799*
- *Vermont, 1791*
- *Virginia, 1800/1819*
- *Ohio, 1804*
- *Michigan, 1817*
- *Indiana, 1820*

The Land-Grant College Act (Morrill Act), 1862

Kansas State University, 1862
Iowa State University, 1858/1864
Rutgers University, 1766/1864
Michigan State University, 1855/1862
University of California, 1855/1868
Connecticut, 1881
Hawaii, 1907
District of Columbia, 1967 (cash, not land)

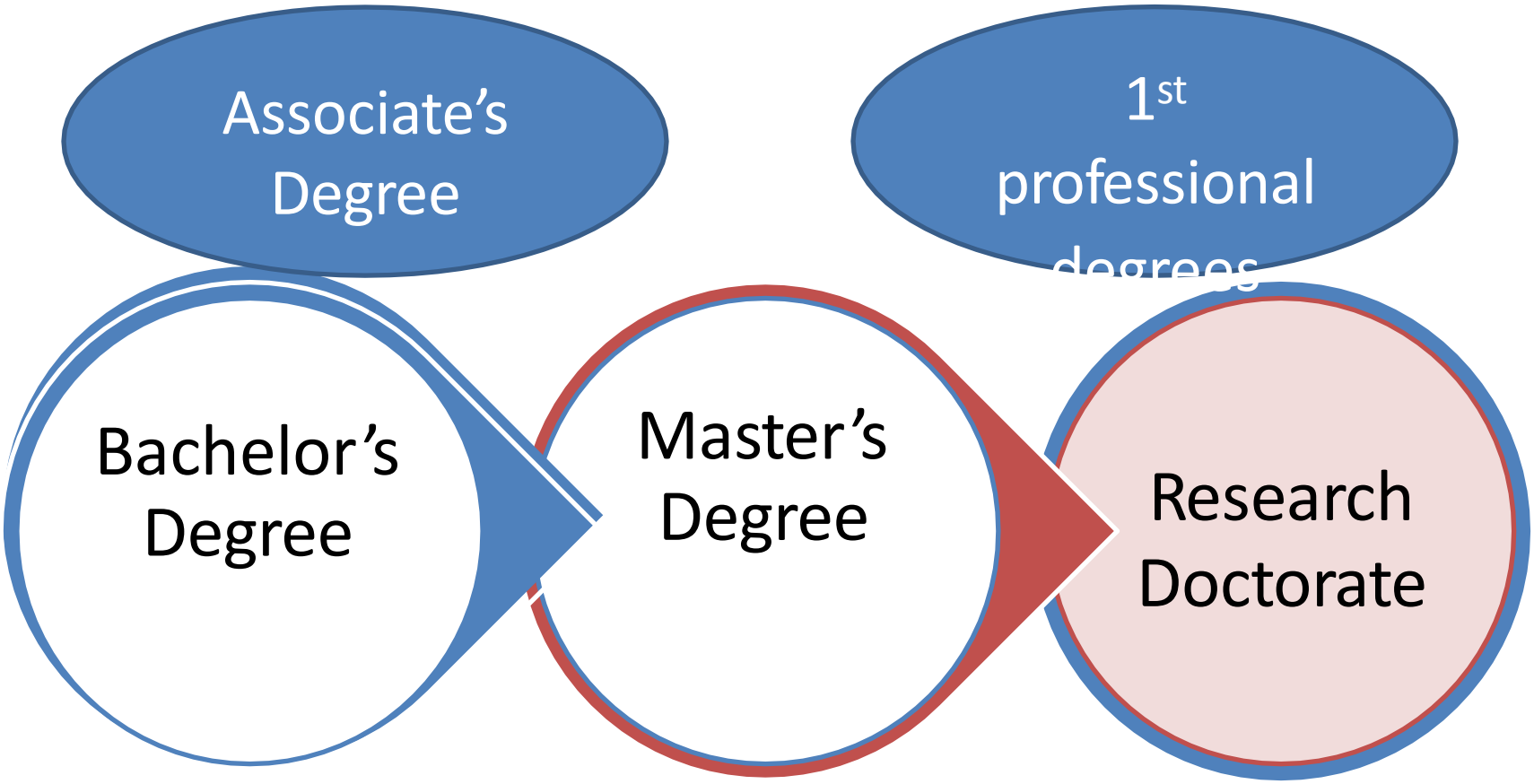
TIMELINE

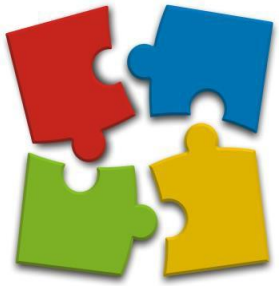

Colonial Colleges
Rise of the University
Expansion and Massification
1650 to 1800
1850 to 1930
1950 to present

Academic Education Evolution

- *Harvard University – chartered in 1636*
- *First professional 'trade' degree in medicine (MD) offered in early 1800's by Columbia U.*
- *First master's degree offered in 1851- U. of Michigan*

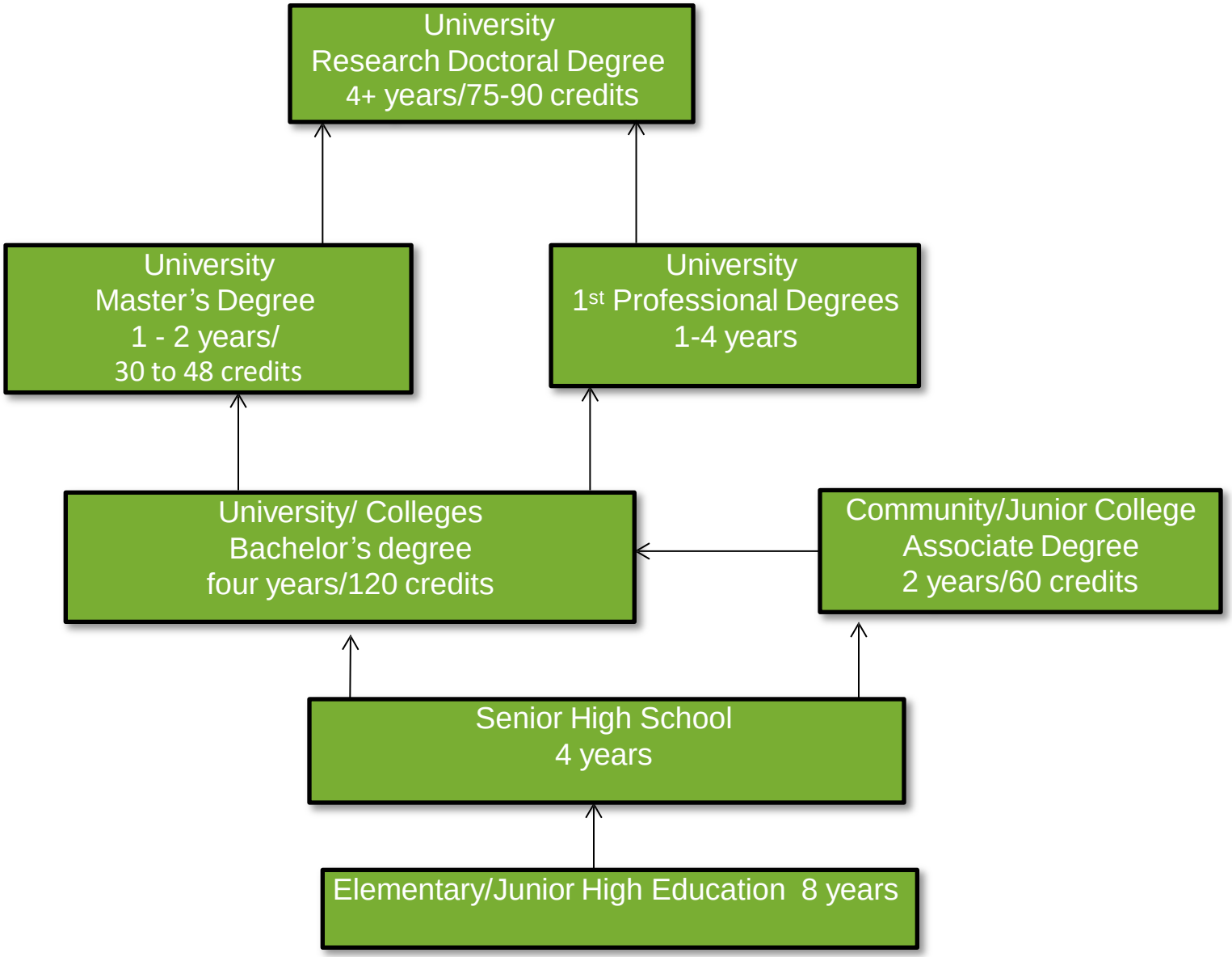
Academic Education Evolution





Structure and System of Institutions

Structure of U.S. Education



Undergraduate Degrees: Bachelor's

Bachelor's Degree

- 120 credits
- Intended to be completed in 4 years
- Offered at baccalaureate, master's and doctorate granting institutions
- Bachelor's of Arts and Bachelor's of Sciences most common
- Major and minor courses
  - discipline-based

Structure

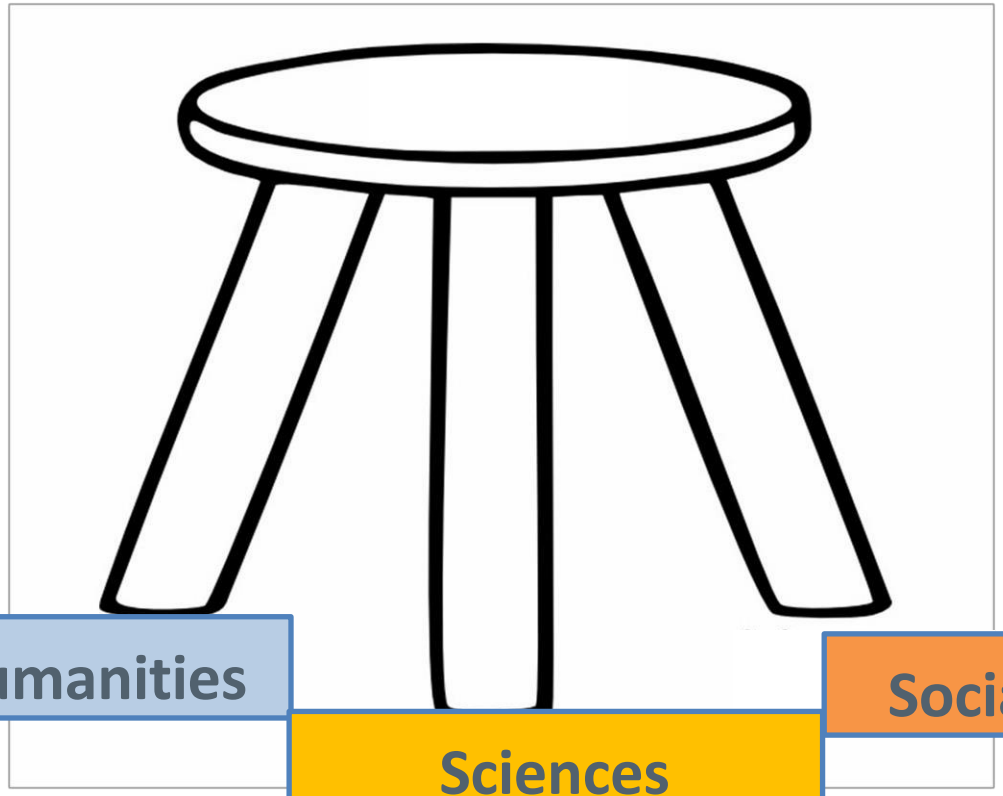
- **Major and minor courses**
  - discipline-based
- **General/Liberal education courses**
  - core curriculum all students take and/or
  - electives chosen from a pre-specified list of courses representing a range of topics

Key Characteristic

Liberal Education

- Content: broad-based, holistic
- Pedagogy: student-centered, participatory, independent thinking
- Outcomes: preparation for citizenship, adaptable skills set, agility in employment

General Education

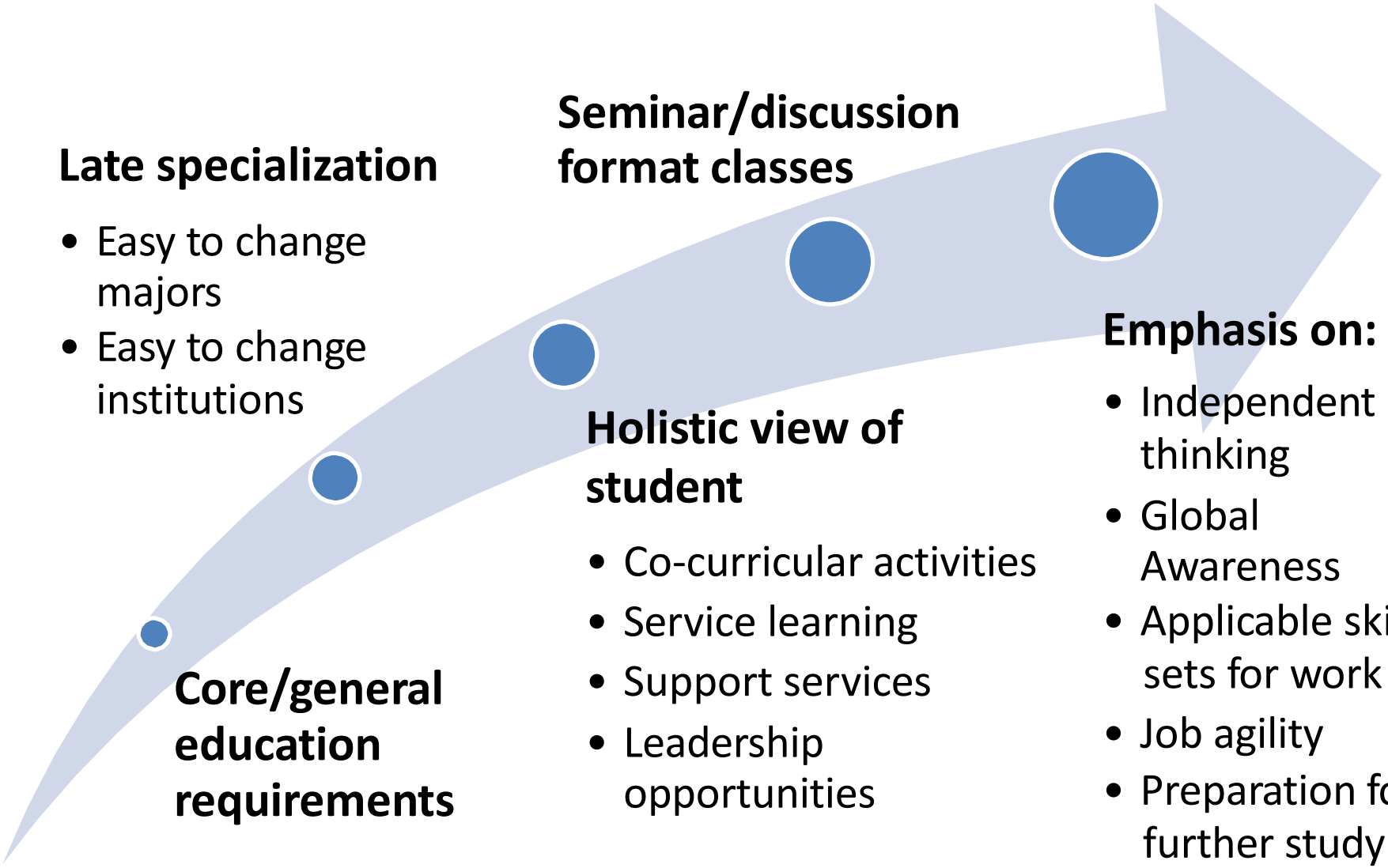


Humanities

Sciences

Social Sciences

U.S. Undergraduate Degree



Late specialization

- Easy to change majors
- Easy to change institutions

Core/general education requirements

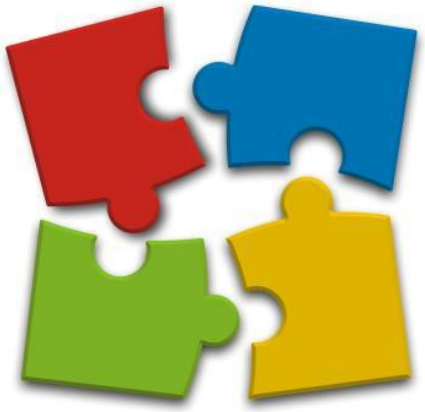
Seminar/discussion format classes

Holistic view of student

- Co-curricular activities
- Service learning
- Support services
- Leadership opportunities

Emphasis on:

- Independent thinking
- Global Awareness
- Applicable skill sets for work
- Job agility
- Preparation for further study



System of Institutions

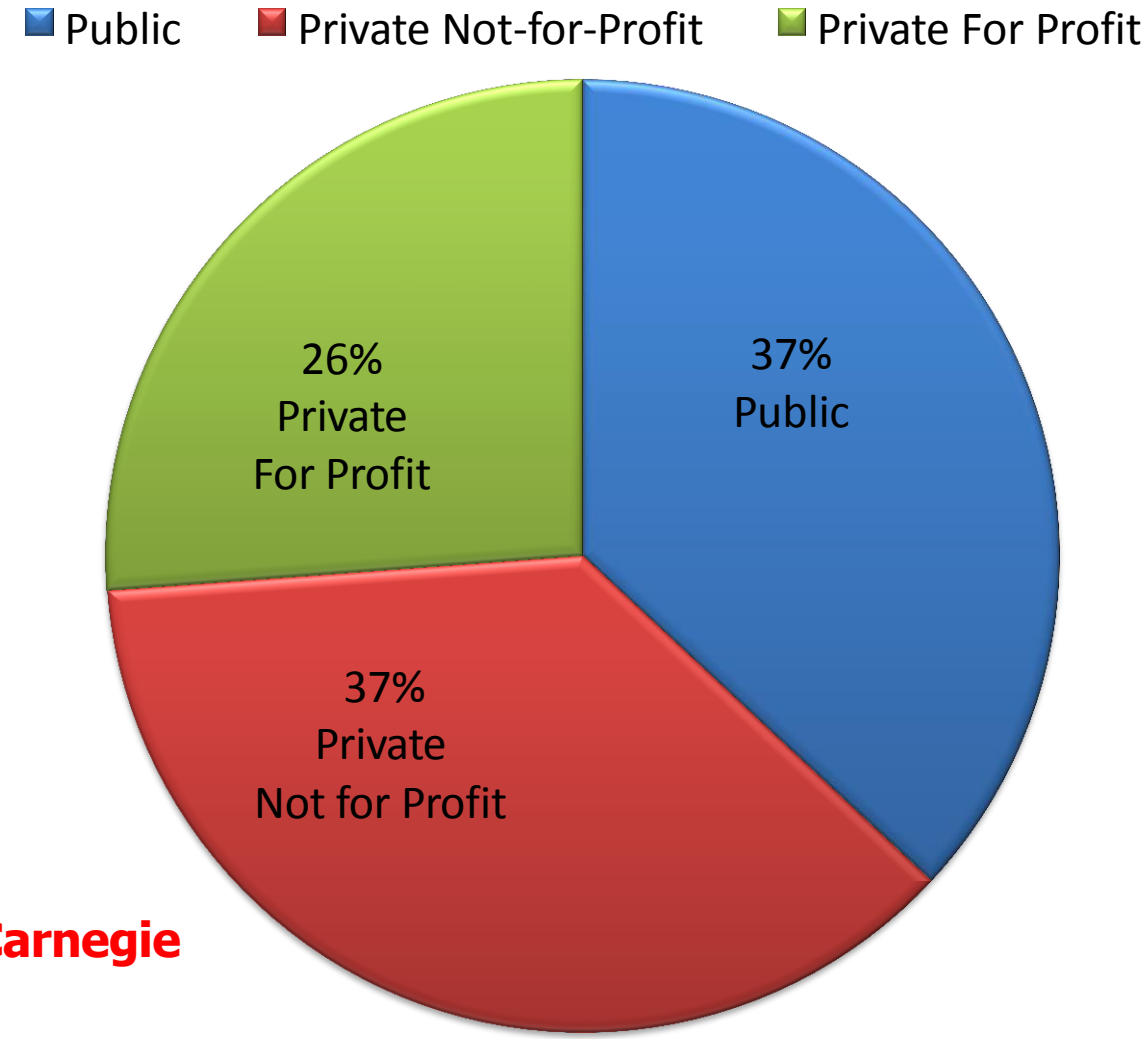
There is no system, just individual units, individual stars in the sky.
Only an astronomer with a telescope could look at it and see a solar system.

…Dr. Tratchenberg, Former President,
George Washington University

Crisis of Confidence Threatens Colleges. Karin Fischer. **Chronicle of Higher Education, May 20, 2011**

"Pluralism" in the types of institutions considered a strength of the system

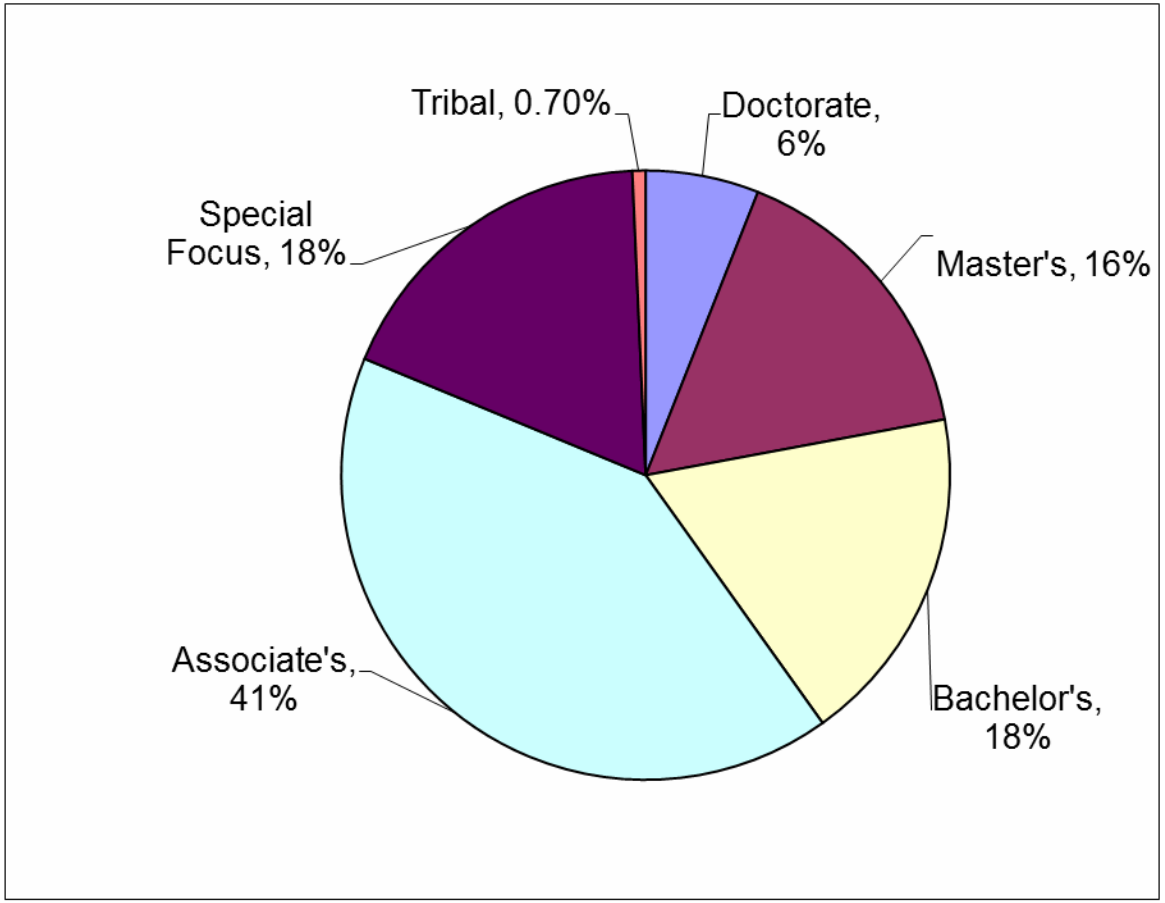
Over 4,600 Accredited Degree-Granting Institutions



Source: 2015 Carnegie Classification

Breakdown by Carnegie Classification

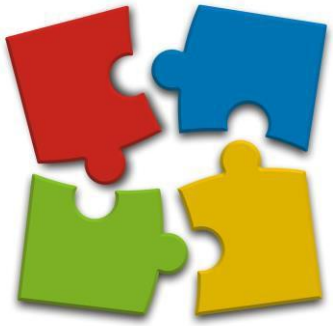
Percentage of Institutions based on HIGHEST degree offered



Number of Institutions

Doctorate	297
Master's	724
Baccalaureate	810
Associate's	1,919
Special Focus	853
Tribal	32
Total	4,635

Source: 2015 Carnegie Classification
http://carnegieclassifications.iu.edu



Accreditation

Decentralized Process

Accreditation is a process of external quality review

- Non-governmental, independent, **peer** review
- Voluntary process
- Self-regulated
- Peer supported/funded

Accreditation: Two Types

Institutional Accreditation

Programmatic Accreditation

Institutional Accreditation: Two Types of Agencies

- **Regional Accrediting Agencies**
- **National Accrediting Agencies**

Programmatic Accreditation

- **Program/Discipline/Professional Accrediting Agencies**

Accrediting Agency Recognition Bodies

Council for Higher Education Accreditation

U.S. Department of Education

Quality Assurance

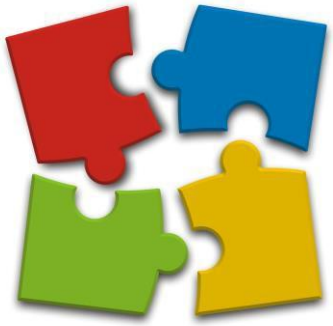
Accreditation is a trust-based, standards-based, evidence-based, judgment-based, peer-based voluntary process.

Taken from *An Overview of U.S. Accreditation* by Judith S. Eaton. Council on Higher Education Accreditation (CHEA). May 2009

Useful Websites

Council for Higher Education Accreditation:
www.chea.org

U.S. Department of Education Accreditation:
http://www2.ed.gov/admins/finaid/accred/accreditation_pg6.html



Students

2014-15: 20.3 Million Students

87% Undergraduate

--6.7million associate
--10.6 million bachelor's

974,926 International
Over 5% of total enrollments

--nearly 41% are undergraduates

Nearly 60% of undergraduate complete within 6 years

13% Graduate
--2.9 million

43% male
57% female

But, increases to 88% at most selective schools

--U.S. Department of Education, Institute of Education Services
National Center for Educational Statistics, Digest of Education Statistics – 2014
--Open Doors- Report on International Education Exchange 2015
--College Board (completion statistics)

Degrees Awarded in 2013-2014

Undergraduate Degrees

- 1.034 million associate's degrees
- 1.87 million bachelor's degrees

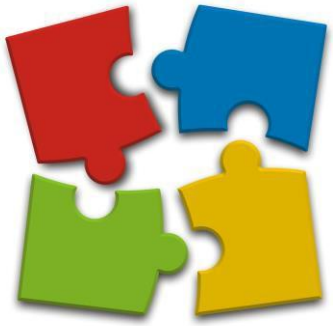
Graduate Degrees

- 755,000 master's degrees
- 177,000 doctoral degrees
  - includes research, professional, and first professional degrees

Certificates

- 970,000 certificates **969,353**
  - over 30,000 graduate level certificates

Taken from The Condition of Education 2016 At a Glance/ nces.ed.gov/programs/coe



How Does It All Work?

Governance

SHARED

Who is in charge at the institutional level?

<u>Shared</u> by many players

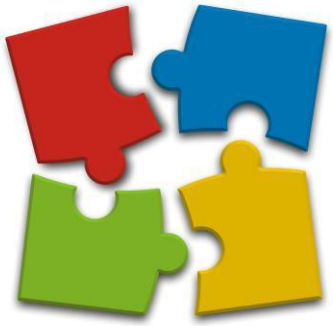
- The Governing Board
- **The President -- 'The Living Logo'**
  - "the Administration"
- The Faculty
- The Students
- External Audiences
  - alumni
  - donors
  - parents

Areas Subject to Joint Decision-Making

- *The Curriculum: Courses and Degree Programs*
- *Academic Policies*
  - General education requirements
  - Grading practices and standards
  - Academic planning
  - Admissions criteria and procedures
  - Campus policies that govern the library and research facilities
  - The academic calendar
- *Hiring, Retention, Tenure, and Promotion of Faculty Members*
- *Searches for Administrators*
- *Budget Planning, Facilities Planning*

Academic Freedom

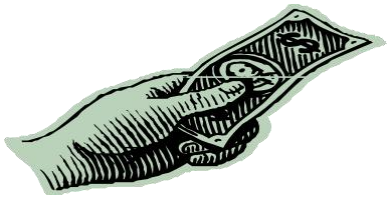
- *1940 Statement on Academic Freedom and Tenure by the Association of American University Professors*
- *Basic concept: freedom of inquiry by students and faculty members is essential to the mission of the academy*
- *Tenure: professors can be fired only for gross professional incompetence or serious unprofessional behavior*



Funding

Funding

Multiple Sources



The University of Illinois revenue budget is derived from numerous sources including State of Illinois appropriations, student tuition and fees, sponsored research, gifts and endowments, auxiliary operations income (bookstore), and earnings from the UIC hospital and medical plans.

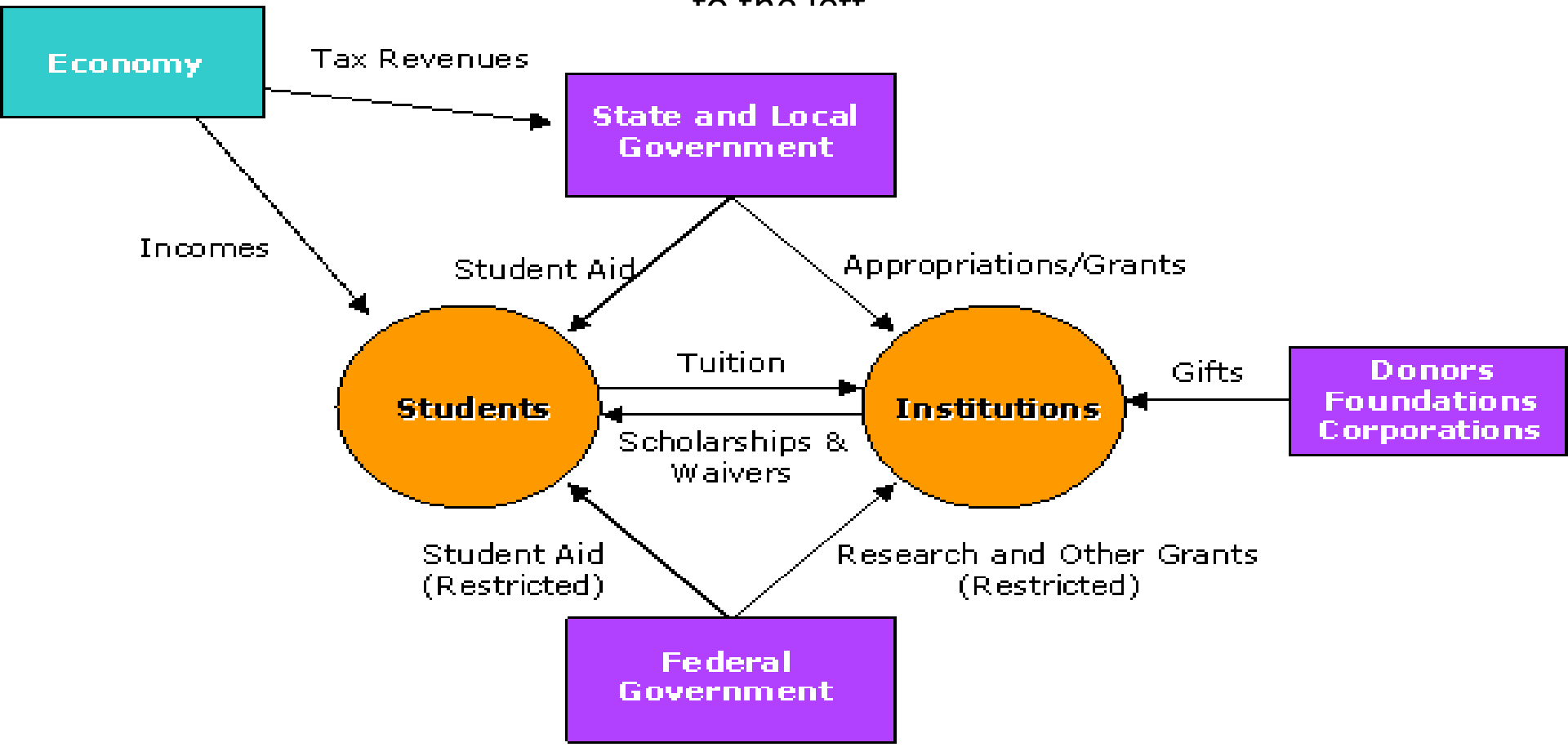
Decentralized Sources of Income 2010-11

Fund Income	Public	Private (not-for-profit)
Tuition and Fees	19%	30%
Federal Government	17%	12%
State Government	23%	.08%
Local Government	6%	.02%
Private Gifts, Grants & Contracts		10%
Endowment and Investment Income	11% (includes gifts)	26%
Sales & Aux. Srvcs & Other	13%	12.5%
Hospitals	10%	8.5%

Taken from the National Center for Ed. Statistics, Digest of Ed. Statistics, **2013—reflects most recent available data**

Finance Diagram

This diagram shows the interrelationships among the various entities involved in financing higher education. For a more complete picture of higher education finance in your state, access the links to data and information in the State Policies section located to the left.



Average Published Charges (Enrollment-Weighted) for Full-Time Undergraduates by Sector, 2015-16

	Public Two-Year In-District	Public Four-Year In-State	Public Four-Year Out-of-State	Private Nonprofit Four-Year	For-Profit
Tuition and Fees					
2015-16	$3,435	$9,410	$23,893	$32,405	$15,610
2014-15	$3,336	$9,145	$23,107	$31,283	$15,160
$ Change	$99	$265	$786	$1,122	$450
% Change	3.0%	2.9%	3.4%	3.6%	3.0%
Room and Board					
2015-16	$8,003	$10,138	$10,138	$11,516	—
2014-15	$7,856	$9,786	$9,786	$11,162	—
$ Change	$147	$352	$352	$354	—
% Change	1.9%	3.6%	3.6%	3.2%	—
Tuition and Fees and Room and Board					
2015-16	$11,438	$19,548	$34,031	$43,921	—
2014-15	$11,192	$18,931	$32,893	$42,445	—
$ Change	$246	$617	$1,138	$1,476	—
% Change	2.2%	3.3%	3.5%	3.5%	—

SOURCE: The College Board, *Trends in College Pricing 2015,* Table 1A

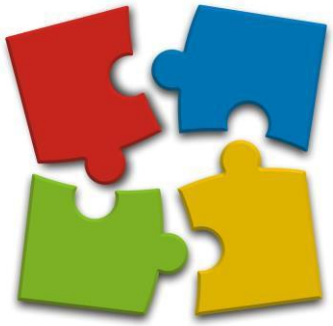
Graduate Tuition and Fees

Overall—average $33,000 per year

- Private—average $38,000
  - *range from $13,000 to $60,000+*

- Public—average $26,000
  - *range from $8,000 to $55,000+*

Generally, highest tuition and fees are in the professional schools such as business, law, architecture, etc.



Vocation and Technical Education In the U.S.

Definition

Vocation education is a practically illustrated and attempted job or career skill instruction.

Components under this umbrella:

- *Agriculture Educatin*
- *Business education,*
- *family and consumer Sciences*
- *Health Occupations Educatin*
- *Marketing Educatin,*
- *Technical Education,*
- *Technology Education*
- *Trade and Industrial Education*

Historical Foundations

- *Old Deluder Satan Act of the Massachusetts Bay Colony sets specific requirements for masters to teach apprentices academic and vocational skills: First vocational ed system*
- *In 1907, President Theodore Roosevelt urged major school reform: industrial education in urban centers and agriculture education in rural areas*
- *In 1910, American Federation of Labor (AFL) approved trade instruction in school*
- *In 1914, Congress authorized President Wilson to appoint a committee to study federal aid to vocational education*
- *In 1917, Congress passed a historical Smith-Hughes Act establishing vocational education as a federal program*
- *Until 1963, this law expanded separate vocatinal education programs and trained workers for a growing number of semi-skilled occupation*

Later Developments

- *1963: Vocational Education Act broadened the definition of vocational education to comprehensive high schools*
- *1968: Amendment to the Vocational Education Act backs funding for vocational education for multiple goals, for disabled and disadvantaged students*
- *1974: Limited English Proficient students were provided with bilingual vocational training*
- *1980s: 2 waves of education reforms, the 2nd emphasizing school-to-work transition for non-bachelor youth, linking vocational & academic education, secondary &college institutions, and schools & workplaces*
- *1984: Perkins Act has 2 related goals: Economic (skills and jobs) and social (equal opportunities). Amended in 1990*
- *1994: The School to Work Opportunities Act – Address national skill shortage through educator/employer partnership*

Four Trends in Vocational and Technical Education

1. *Vocational and technical careers are in demand*

Twice as many job openings for those without a bachelor's degree as for those holding four-year degrees

2. Earnings are going up

27% of those with post secondary lisences or certificates earn more than their four-year bachelor peers

3. Hands-on training works

Learning by doing, real job experience, real skills

4. Vocational & technical education serves individuals and the country

Jobs such as clerical workers, electricians, plumbers, healthcare workers, technicians serve a vital function in the U.S. economy. Growth in these sectors helps these workers to break into the middle class.

Issues in the New Era

- *Increasing acknowledgement: Traditional educational focus on college-bound youth needs to change. More on work-bound youth needing less than bachelor education*
- *Increasing concern: U.S. is not adequately preparing a growing poo of new workers – women, minorities, and immigrants.*
- *Both issues bring new importance to vocation education*
- *This leads to the importance of U.S. Community College system*

Community Colleges

First established in Joliet, Illinois, 1901, as an extension of the local high school

Vocational emphasis in 1920s and 1930s

Also developed as transfer institutions, providing the first two years of a baccalaureate education

Rapid growth in 1960s

Technical training emphasis in 1980s

Typically practice open admission; 42% of entering public community college students must take remedial courses

45% are in CCs， 55% in 4-Year Institutions (2006)

Undergraduate Associate Degrees

Associate Degree	Goal

▪ 60 credits
▪ Intended to be completed in 2 years
▪ Generally offered at community/junior colleges
▪ Transfer degrees
  ▪ Associate's of Arts
  ▪ Associate's of Science
▪ Terminal degrees
  ▪ Associate's of Applied Sciences
	▪ Serve needs of local community
	  ▪ Local and affordable access to higher education
	  ▪ Meet local manpower needs
	  ▪ Avenue for life long, continuous learning and training

Community Colleges Programs

Provide courses for transfer to a baccalaureate-granting institution

Workforce training --

- Police, firefighters, nurses
- Aeronautical and automotive mechanics
- Culinary arts – chefs, bakers, etc.
- Medical and dental assistants and technicians
- Machinery maintenance

Adult education

Personal enrichment

Give Students the Skills needed in the 21st Century

Problem identification or articulation *1*

对问题的认知和阐释

Ability to identify new patterns of behavior or new combinations of actions *2*

发现新的规律和组合的能力

Integration of knowledge across disciplines *3*

对跨学科知识的融合

Ability to originate new ideas *4*

产生新思维的能力

21st Century Skills (Continued)

Comfort with notion of 'no right answer' *5*

承认有时没有"正确的的答案"

Fundamental curiosity *6*

对事务的由衷的好奇

Originality and inventiveness in work *7*

工作中的发明创造

Problem solving *8*

解决问题的能力

NAFSA
Association of International Educators