

Career Clusters and Career Pathways

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Current Legislation

- House Bill 400 (BRIDGE)- May 2010
- House Bill 186- May 2011
- House Bill 713- pending

BRIDGE Bill

- 6th, 7th, and 8th graders shall be provided counseling, advisement, career awareness, career interests inventories, to assist them with evaluating their career interests and academics skills.
- Before end of 8th grade, a student must have an individual graduation plan.
- High Schools students must be given guidance so they can complete their individual high school graduation plan and move to post secondary education.

Every high school student will have an individual graduation plan.

Local school systems must provide every student with choices that are academically rigorous and aligned to opportunities in

high-demand, high-skill, high-wage career fields

and to postsecondary career and technical pathways leading to advanced credentials or degrees. (House Bill 186)

Advisement/Bridge Act (HB 400 May, 2010)

Advisement is a major part of education and career planning for ALL students. In May, the Governor signed the Bridge Bill to mandate advisement in grades 6-12. Three possible methods of delivery to result in an individual graduation plan:



Georgia's Counselor-Supported 6-12 Teachers-As-Advisor (TAA) Program Model



GeorgiaStandards.org for Middle Schools

- 32.02100 Career Awareness
- 32.02200 Career Discovery
- 32.02300 Career Management



Local middle and high school counselor's program provides comprehensive and developmental counseling and advisement to all students in grades 6-12

Effective advisement is measured by the utilization of your selected Career Information System (CIS) in all middle and high schools

House Bill 186

- State Model and Curriculum Frameworks based on *National Career Clusters Model*
- Stronger coordination between high school and higher education
- CTAE courses shall included embedded standards in academic core subject areas
- Dual enrollment courses and credits
- Soft Skills Certification
- Implementation July, 2012

House Bill 713

- Implementation July 2013
- Minimum course of study in career education for students in grades K-12.

Senate Version- Passed March 14, 2011

The State Board of Education shall prescribe a minimum course of study in career education for students in grades kindergarten through 12. Such minimum course of study shall be age appropriate and shall include, but not be limited to, career awareness, career exploration, and career oriented learning experiences.

National Career Clusters Model

- National Association of State Directors of Career Technical Education www.Consortium



www.careerclusters.org
www.careertech.org

16 USDOE Career Clusters - Brief Descriptions

Agriculture, Food & Natural Resources The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including but not limited to: food products, natural resources, horticulture, and other plant and animal products/resources. Careers in designing, planning, managing, building and maintaining the built environment.	Hospitality & Tourism Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services.
Architecture & Construction Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, illustration, and entertainment services.	Human Services Preparing individuals for employment in career pathways that relate to families and human needs.
Arts, AV Technology & Communication Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, illustration, and entertainment services.	Information Technology Building linkages in IT Operations, Networks, For Entry Level, Technical, and Professional Careers related to the Design, Development, Support and Management of Hardware, Software, Multimedia, and Systems Integration Services.
Business, Management & Administration Business Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy.	Public Safety, Corrections & Security Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.
Education & Training Planning, managing and providing education and training services, and related learning support services.	Manufacturing Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing process engineering.
Finance Planning, services for financial and investment planning, banking, insurance, and business financial management.	Marketing, Sales & Service Planning, managing, and performing marketing activities to reach organizational objectives.
Government & Public Administration Evaluating governmental functions to include: National Security, Foreign Service, Planning, Revenue and Taxation, Personnel and Management and Administration at the local, state, and federal levels.	Science, Technology & Innovation Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and lab services, and research and development services.
Health Science Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.	Transportation, Distribution & Logistics Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

GA House Bill 186

No later than July 1, 2012, the Department of Education shall develop, and the State Board of Education shall approve, state standards and curriculum framework for the following focused programs of study as defined in Code Sections 20-2-219, including, but not limited to:

- (1) Agriculture, food, and natural resources;
- (2) Architecture and construction;
- (3) Arts, audio/visual technology, and communication;
- (4) Business, management, and administration;
- (5) Education and training;
- (6) Finance;
- (7) Health science;
- (8) Hospitality and tourism;
- (9) Human services;
- (10) Information technology;
- (11) Law, public safety, and security;
- (12) Manufacturing;
- (13) Government and public administration;
- (14) Marketing, sales, and service;
- (15) Science, technology, engineering, and mathematics; and
- (16) Transportation, distribution, and logistics.

Such focused programs of study may be combined around these and other related clusters.

79 Pathways within the 16 USDOE Career Clusters

Agriculture, Food & Natural Resources Plant Systems Food Systems and Processing Systems Animal Systems Pest, Structural & Technical Systems Natural Resources Systems Aquaculture Systems Design/Pre-Construction Maintenance/Operations	Human Services Early Childhood Education & Services Counseling & Mental Health Services Family & Community Services Personal Care Services Criminal Justice Network Systems Information Support and Services Interactive Media Programming and Software Development
Architecture & Construction Audio and Video Technology and Film Printing Technology Performing Arts Simulation and Broadcasting Telecommunications	Information Technology Correction Services Emergency and Fire Management Security & Protective Services Law Enforcement Services Legal Services
Arts, AV Technology & Communication Administration Management Business Financial Management & Accounting Human Resources Business Ethics Marketing Administration & Information Support Administration and Administrative Support Professional Support Services Teaching/Training	Public Safety, Corrections & Security Production Manufacturing Production Process Development Maintenance, Installation & Repair Quality Assurance Logistics & Inventory Control Health, Safety and Environmental Assurance
Business, Management & Administration Financial & Investment Planning Business Financial Management Banking & Related Services Insurance Services Governance National Security Foreign Service Planning Revenue and Taxation Regulation Public Management and Administration	Manufacturing Management and Entrepreneurship Professional Sales and Marketing Buying and Merchandising Marketing Communications and Promotion Business Information Management and Research Distribution and Logistics IT Marketing Engineering and Technology Science and Math
Education & Training Therapeutic Services Diagnostic Services Health Informatics Support Services Biotechnology Research and Development Business and Social/Behavioral Services Lodging Travel & Tourism Recreation, Recreation & Attractions	Marketing, Sales & Service Management and Entrepreneurship Professional Sales and Marketing Buying and Merchandising Marketing Communications and Promotion Business Information Management and Research Distribution and Logistics IT Marketing Engineering and Technology Science and Math
Finance Financial & Investment Planning Business Financial Management Banking & Related Services Insurance Services Governance National Security Foreign Service Planning Revenue and Taxation Regulation Public Management and Administration	Science, Technology & Innovation Transportation Operations Logistics Planning and Management Services Warehousing and Distribution Center Operations Facility and Mobile Equipment Maintenance Transportation Systems/Infrastructure Planning, Management and Regulation Health, Safety and Environmental Management Sales and Service
Government & Public Administration Financial & Investment Planning Business Financial Management Banking & Related Services Insurance Services Governance National Security Foreign Service Planning Revenue and Taxation Regulation Public Management and Administration	Transportation, Distribution & Logistics Transportation Operations Logistics Planning and Management Services Warehousing and Distribution Center Operations Facility and Mobile Equipment Maintenance Transportation Systems/Infrastructure Planning, Management and Regulation Health, Safety and Environmental Management Sales and Service
Health Science Therapeutic Services Diagnostic Services Health Informatics Support Services Biotechnology Research and Development Business and Social/Behavioral Services Lodging Travel & Tourism Recreation, Recreation & Attractions	
Hospitality & Tourism Plant Systems Food Systems and Processing Systems Animal Systems Pest, Structural & Technical Systems Natural Resources Systems Aquaculture Systems Design/Pre-Construction Maintenance/Operations	

The Terminology

- Career Clusters
- Career Pathways
- Programs of Study

The Terminology

- Career Clusters – represent 16 groupings of occupations and industries

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The Terminology

- 16 Career Clusters
 - Agriculture, Food & Natural Resources
 - Architecture & Construction
 - Arts, A/V Technology & Communications
 - Business, Management & Administration
 - Education & Training
 - Finance
 - Government & Public Administration
 - Health Science
 - Hospitality & Tourism
 - Human Services
 - Information Technology
 - Law, Public Safety & Service
 - Manufacturing
 - Marketing, Sales & Service
 - Science, Technology, Engineering & Mathematics
 - Transportation, Distribution & Logistics

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The Terminology

- Career Clusters
- Career Pathways - represent a grouping of occupations within a cluster based on commonalities

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CAREER PATHWAYS: a systemic framework

As stated at the Programs of Study Institute, D.C. – July 2007:

"The intent of the Federal Government is the integration and complete connectivity of academic and career/technical education. Academic and career/technical education strands will be coupled in all Federal language. Likewise, there will be no more "programs" but 79 career pathways as aligned to 16 career clusters . . .

Career Pathways will facilitate the systemic integration for the two."

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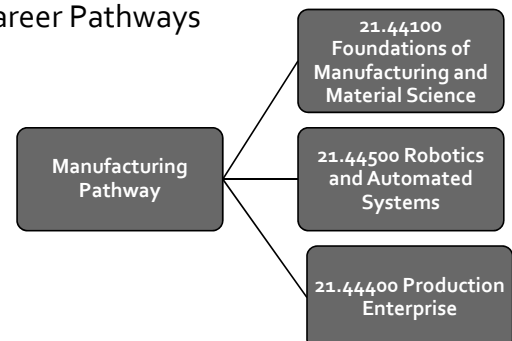
The Terminology

- Career Clusters
- Career Pathways
- Programs of Study – are a sequenced listing of courses, both *academic* and *CTAE* that connects students' high school and postsecondary educational experiences

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Career Pathways



Each Career Pathway Has....

- Required and Elective Courses
- Student Organization Affiliations
- Work Based Learning
- Post Secondary Options

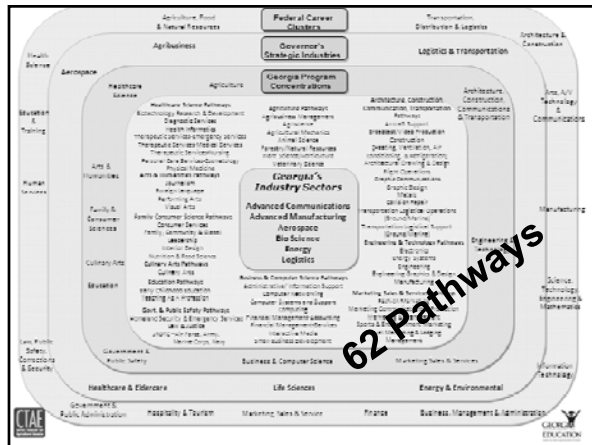
Peach State Pathways: Education and Career Planning Tool
Engineering & Technology

Student Name: _____ Date: _____
 Parent/Guardian Signature: _____ Admissions/Counselor Signature: _____

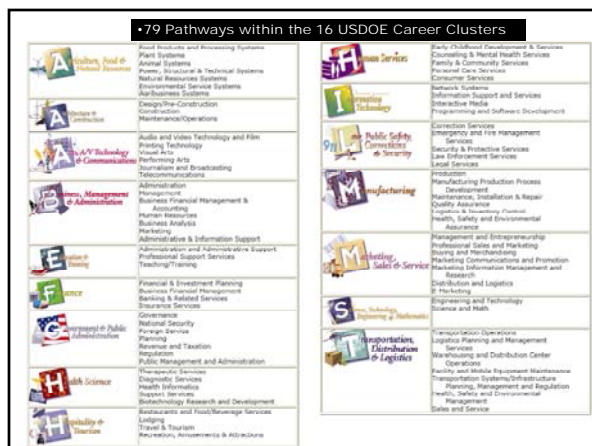
This plan of study should serve as a guide, along with other career planning materials, as you coordinate your education. Courses listed within this plan are only recommended coursework and should be evaluated to meet each learner's educational and career goals. All plans will meet minimum high school graduation requirements as well as minimum college entrance requirements.

Manufacturing

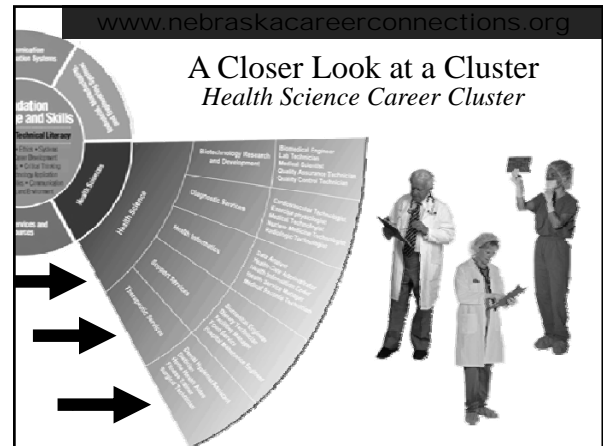
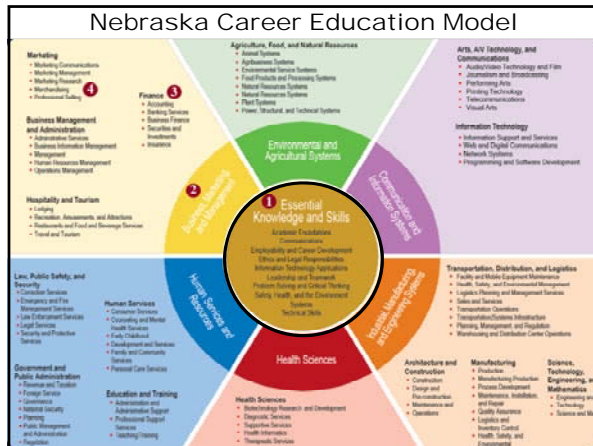
Course	Prerequisite	Corequisite	Notes
Math 1			
Math 2	Math 1		
Science 1			
Science 2	Science 1		
English 1			
English 2	English 1		
History 1			
History 2	History 1		
Art 1			
Art 2	Art 1		
Physical Education 1			
Physical Education 2	Physical Education 1		
Computer Science 1			
Computer Science 2	Computer Science 1		
Manufacturing Fundamentals			
Advanced Manufacturing	Manufacturing Fundamentals		
Engineering Fundamentals			
Advanced Engineering	Engineering Fundamentals		
Math 3	Math 2		
Math 4	Math 3		
Science 3	Science 2		
Science 4	Science 3		
English 3	English 2		
English 4	English 3		
History 3	History 2		
History 4	History 3		
Art 3	Art 2		
Art 4	Art 3		
Physical Education 3	Physical Education 2		
Physical Education 4	Physical Education 3		
Computer Science 3	Computer Science 2		
Computer Science 4	Computer Science 3		
Manufacturing Fundamentals			
Advanced Manufacturing	Manufacturing Fundamentals		
Engineering Fundamentals			
Advanced Engineering	Engineering Fundamentals		



Georgia's 11 Program Concentrations	Federal 16 Clusters
Agriculture	Agriculture, Food & Natural Resources
Architecture, Construction, Communications & Transportation	Architecture & Construction Arts, A/V Technology & Communications Transportation, Distribution & Logistics
Arts & Humanities	Arts, A/V Technology & Communications
Business & Computing	Business, Management & Administration Finance Information Technology
Culinary Arts	Hospitality & Tourism
Education	Education & Training
Engineering & Technology	Manufacturing, Technology, Engineering and Mathematics (STEM)
Family and Consumer Sciences	Human Services Health Science
Government & Public Safety	Government & Public Administration Law & Public Safety Human Services
Healthcare Science	Health Science
Marketing, Sales & Service	Market, Sales & Services Hospitality & Tourism



Georgia Department of Education is currently working on our Career Cluster Model.



Health Science Career Cluster

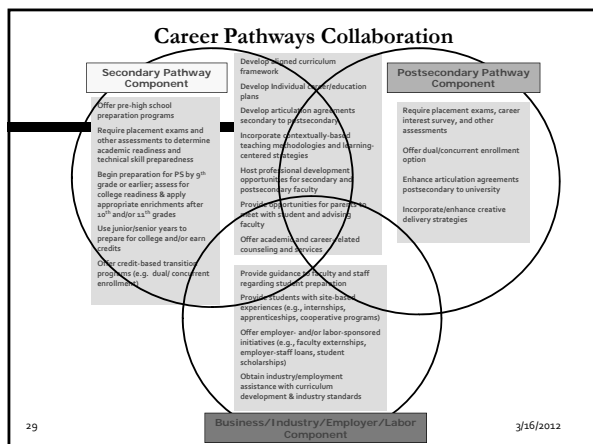
5 Career Pathways with Specialties

- **Therapeutic Services Pathway**
MD, DVM, Audiologist, EMT, LPN, CNA ...
- **Diagnostic Services Pathway**
Geneticist, Pathologist, Phlebotomist ...
- **Health Informatics Pathway**
Epidemiologist, Ethicist, Admitting Clerk ...
- **Support Services**
Facilities Manager, Food Service, Industrial Hygienist ...
- **Biotechnology R & D**
Biochemist, Cell Biologist, Lab Technician ...

The Importance of Career Pathways: The difference:

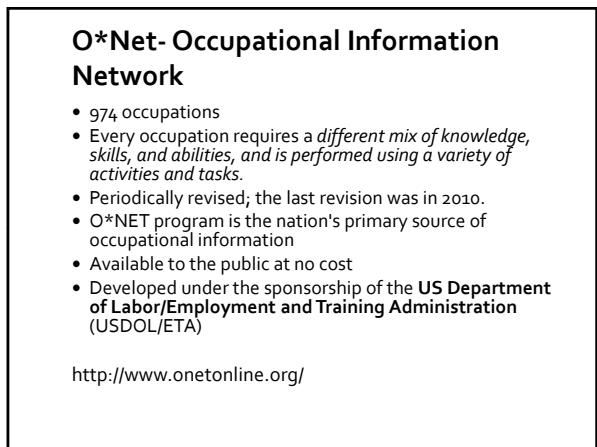
THEN	NOW
• Vocational Ed	• Career and Technical Education
• For a Few Students	• For All Students
• For a Few "Jobs"	• For All "Careers"
• 6 to 7 Program Areas	• 16 Clusters – 79 Pathways
• In Lieu of Academics	• Aligned/Integrated with Academics
• High School Focused	• High School and College Partnerships

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Career Pathway Offerings Should Align with Regional Economic Development Needs

- Needs assessments through use of local resources
 - Local Economic Development
 - Chamber of Commerce
 - Department of Labor Information
- Conduct needs assessments within school setting
 - Surveys
- Must align career pathways with community/economic needs
- Filling gaps by maximizing resources
 - Dual Enrollment with Technical College



Occupations by Cluster/Pathways		
Table 4: O*NET's 16 Pathways		
<u>Simple Assignment of O*NET to Pathway</u>		
September 2007 Version / Subject to Revision after Initial Use		
O*NET Cluster/Pathway		
Code	Performing Arts Pathway	Title
22-1001.00	Act, Perform, Appear, Performer, Entertainer, Entertainer/Entertainment	
22-1027.00	Set Designer	
22-1030.00	Artist	
22-1032.00	Producers and Filmmakers	
22-1033.00	Producers	
22-1035.00	Directors, Stage, Motion Picture, Television, and Video	
22-1035.15	Program Filmmaker	
22-1042.00	Talent Director	
22-1046.00	Theatrical Design/Manager	
22-1050.00	Dancers	
22-1052.00	Choreographers	
22-1053.00	Music Director and Composers	
22-1054.00	Music Directors	
22-1054.10	Musician	
22-1054.15	Musician, Instrumental	
22-1054.20	Musician and Singer	
22-1054.30	Singers	
22-1054.99	Musician, Instrumental	
22-1059.00	Entertainers and Performers, Sports and Related Activities, All Other	
22-1059.01	Public Address System and Other Announcers	
22-1063.00	Technical and Support	
22-1063.10	Set and Proprietor	
22-1063.15	Creative Writer	
22-1070.00	Creative Operators, Television, Video, and Motion Picture	
22-1070.10	Film and Video Editor	
22-1070.15	Making Artists, Theatrical and Performance	
22-1070.16	Songs and Lyrics, Vocalists, Motion Picture Sets, Studios, and Stages	

[illegible]

Occupations and Instructional Programs by Clusters/Pathways				(Master Mapping Table)	
Table < Cluster Pathway CIP SOC ONET					
Multiple Assignments of Occupations and CIPs to Pathways September 2017 Version - Subject to Revision after Initial U.S.					
		Sorted by Pathway, then ONET, then CIP			
Career Clusters	Career Pathways	U.S. Department of Education Classification of Instructional Programs	Bureau of Labor Statistics Occupational Employment Statistics Classifications	Employment & Training Administration O*NET Circulation	
Code	Cluster Title	Code	Pathway Title	Code	Occupation Title
21000	Agriculture, Food and Natural Resource Cluster	1.1000	Food Products and Processing Systems Pathway	0110190	Farm, Ranch, & Other Agricultural Managers
21000	Agriculture, Food and Natural Resource Cluster	1.1000	Food Products and Processing Systems Pathway	0110194	Farm, Ranch, & Other Agricultural Managers
21000	Agriculture, Food and Natural Resource Cluster	1.1000	Food Products and Processing Systems Pathway	0110198	Farm, Ranch, & Other Agricultural Managers
21000	Agriculture, Food and Natural Resource Cluster	2.1000	Food Products and Processing Systems Pathway	0110190	Packaging Agents & Drivers, Farm Products

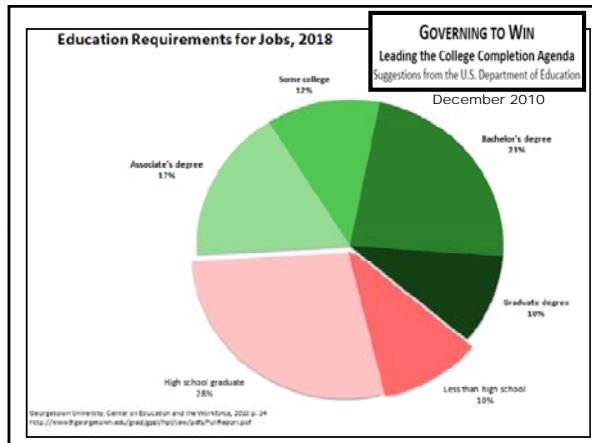
<http://www.careertech.org/career-clusters/resources/crosswalks.html>

All occupations have been assigned to a single cluster/pathway for data reporting and related uses.

<http://www.careertech.org/career-clusters/resources/crosswalks.html>

Are Career Pathways for All Students?

YES!!!



"One mark of a great educator is the ability to lead students out to new places where even the educator has never been."
-Thomas Groome

Questions?

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