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ED 454 384

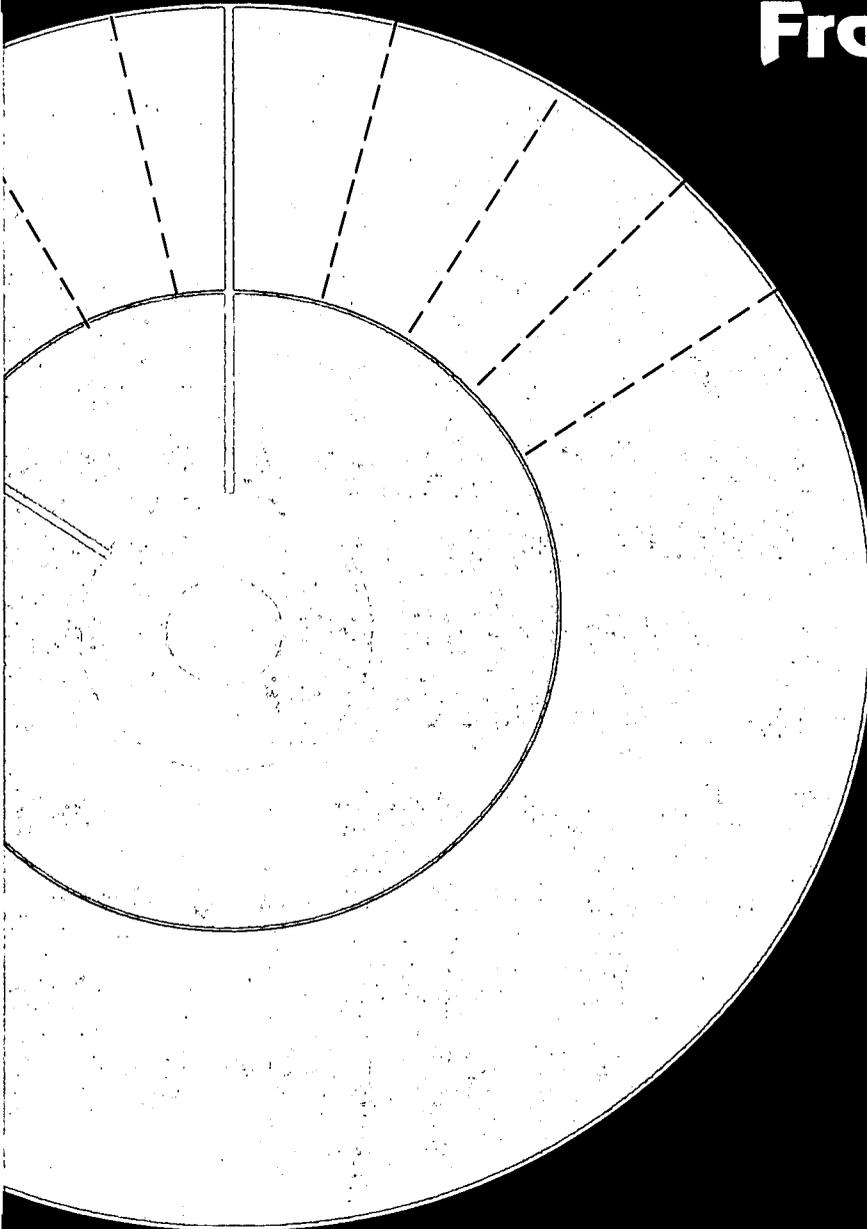
CE 081 818

TITLE V-TECS Career Cluster Frameworks.
 INSTITUTION Vocational Technical Education Consortium of States,
 Decatur, GA.
 PUB DATE 2000-00-00
 NOTE 21p.
 AVAILABLE FROM For full text:
<http://www.v-tecs.org/Documents/VTECS%20Cluster%20Framework.pdf>.
 PUB TYPE Guides - Non-Classroom (055)
 EDRS PRICE MF01/PC01 Plus Postage.
 DESCRIPTORS Agricultural Occupations; Architecture; Art; Audiovisual
 Communications; Business Administration; Career Choice;
 Career Education; Communications; Construction (Process);
 *Education Work Relationship; Engineering; Finance
 Occupations; Government (Administrative Body); Health
 Occupations; Hospitality Occupations; Human Services;
 Information Technology; *Job Skills; Lawyers; Managerial
 Occupations; Manufacturing; Natural Resources; *Occupational
 Clusters; *Occupational Information; Postsecondary
 Education; Public Administration; Retailing; Sales
 Occupations; Scientific Research; Secondary Education;
 *Technical Education; Tourism; Training; Transportation;
 *Vocational Education; Wholesaling
 IDENTIFIERS Computer Occupations; *Crosswalks (Linking)

ABSTRACT

This document includes 16 vocational-technical crosswalk wheels relating the 14 Vocational Technical Education Consortium of States (V-TECS) Career Families to the 16 Career Clusters developed by the U.S. Department of Education. The career clusters are based on the common academic, workplace, and technical knowledge and skills that cut across all occupations included in the career area and their related concentrations and specialties. The following career clusters are illustrated: (1) agriculture and natural resources; (2) architecture and construction; (3) arts, audiovideo technology and communications; (4) business and administration; (5) education and training; (6) finance; (7) government and public administration; (8) health science; (9) hospitality and tourism; (10) human services; (11) information technology; (12) law and public safety; (13) manufacturing; (14) retail and wholesale sales and service; (15) scientific research and engineering; and (16) transportation, distribution, and logistics services. The document also includes an explanation of the primary elements of the career clusters as interpreted by V-TECS. (KC)

V-TECS Career Cluster Frameworks



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V-TECS FRAMEWORK FOR RELATING CAREER CLUSTERS, CONCENTRATIONS, AND OCCUPATIONAL SPECIALTIES

Background

In 1994 and 1995 V-TECS staff were asked to write two papers for the Department of Labor through two of their sub contractors. The first of these papers dealt with the feasibility of defining industry based clusters using knowledge and skills instead of duty/tasks and the other dealt with updating of the Standard Occupational Classification System. Lessons learned in writing these papers were used to develop an Industry/Occupational Family Career Major Occupational Specialty Framework for the purpose of better organizing the various V-TECS products and systems, which the V-TECS Board of Directors approved in 1996. This decision was driven by three converging issues. First, V-TECS had developed over 350 products representing some 200 occupational titles that could no longer be kept current given the level of financial resources available from the states. Second, lessons learned in developing the National Skill Standards for Heating, Air Conditioning, and Refrigeration Technician called for a new organizational context for displaying knowledge and skills as related to occupations. Third, member states were asking for our outcomes to be organized around broader categories.

The original V-TECS Industry/Occupational Family, Career Major, Occupational Specialty Framework had fourteen families with four levels within each family. With the release of the U.S. Department of Education's Sixteen Clusters in November 1999, V-TECS conscientiously reviewed its fourteen industry/occupational families to ensure they were comparable with the Department's sixteen. This review resulted in the development of a set of wheels that divided the sixteen clusters into logical concentrations containing occupational specialties that were representative of each concentration. To the degree possible, each concentration shares a common base of essential knowledge and skills, which are assumed to be beyond the basic academic or foundation skills that are routinely taught in regular academic programs. Today, V-TECS uses the wheels as a way of organizing its efforts to develop and update industry based standards and assessments useable across state lines.

Current Crosswalks of V-TECS Families with U. S. Department of Education Clusters

The basis for determining which concentration would be assigned to a specific career cluster was the assumed common academic, workplace, and technical knowledge and skills that are required to perform work in that area. Place of employment was not necessarily the driving force. For example, secretaries may be hired to work in Manufacturing, Health Care, or other areas, but they are identified with Business and Administrative Services since the knowledge and skills required to do this type of work are related to specialty areas that are learned in business related programs. Managers may work in government or public service, but they receive their initial education in a business, finance, or management educational environment.

The following are the source documents used to identify the career majors and specialties.

The V-TECS Industry/Occupational Family Career Major and Occupational Framework as Revised in 2000

The National Skill Standards Board's Occupational Classification by NSSB Cluster, Table B

The National Occupational Information Coordination Committee's Updated National Units of Analysis which crosswalks CIP and OES Codes

The U. S. Department of Education Classification of Instructional Programs 2000 (Draft)

The U. S. Department of Education Brochure on the Sixteen Career Clusters (2000)

The Indiana Career Cluster Guide, 3rd Edition

The Ohio IT Works Brochure

Summary

- The V-TECS crosswalk for these USOE Career Clusters are based on the common academic, workplace, and technical knowledge and skills that cut across all occupations included in the career area to include the related concentrations and specialties.
- The original V-TECS Families Career Area and Specialties were developed using OES, SOC, CIP, O*NET, NOICC, Units of Analysis, and the National Skill Standards Board Clusters.
- These wheels are meant to be suggestive in nature and do not include all possible occupations in the cluster. They have been developed as a vehicle for states and local agencies to use in developing their own clusters. They can be expanded on or merged in a variety of ways. The key to consolidation should center around common knowledge and skills. See next page for an explanation of the wheels. V-TECS also has a CIP/OES crosswalk based on the NOICC Units of Analysis frameworks that can be shared as well.

KNOWLEDGE + SKILLS FOR TASKS TO BE PERFORMED = OCCUPATIONAL FAMILY ASSIGNMENT

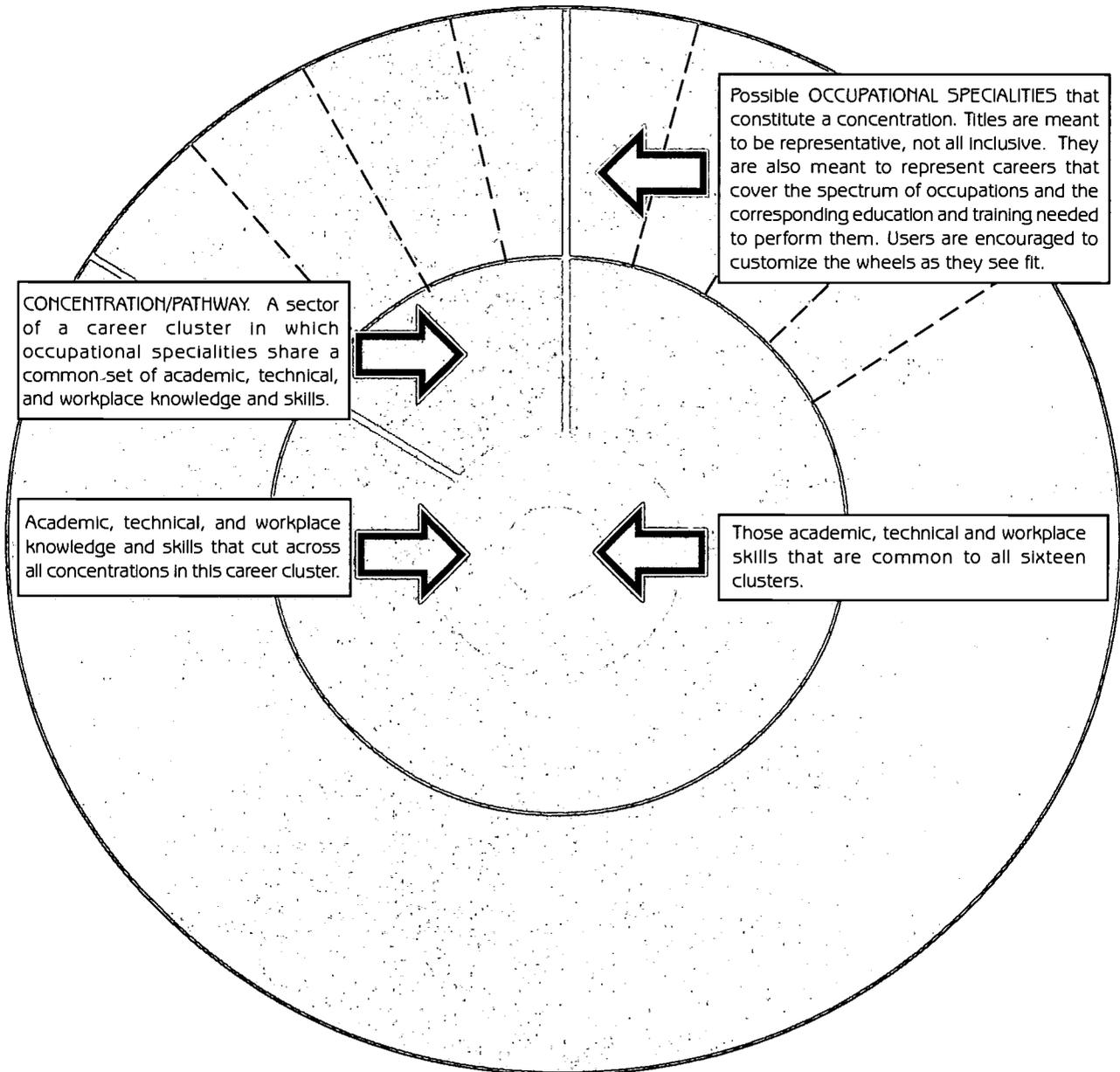
PRIMARY CIP CODES ADDRESSED IN THE V-TECS CROSSWALK OF USOE CAREER CLUSTERS

CIP Codes	USOE
01, 02, 03, 15	Agricultural and Natural Resources
04, 15, 46, 47	Architecture and Construction
04, 09, 10, 11, 50, 52	Arts, Audio/Video Technology, and Communications
52	Business and Administration
13, 25	Education and Training
08, 52	Finance
44	Government and Public Administration
20, 51	Health Science
08, 12, 20, 31, 52	Hospitality and Tourism
19, 20, 42, 44, 51	Human Services
10, 11, 15, 47, 52	Information Technology
22, 43	Law and Public Safety
14, 15, 21, 47, 48	Manufacturing
08, 12, 20, 52	Retail/Wholesale Sales and Service
14, 15, 26, 40, 41,	Scientific Research and Engineering
46, 47, 49, 52	Transportation, Distribution, and Logistics

CIP Codes listed represent areas for which there are career, technical, occupational, and/or vocational education programs available.

Explanation of the Primary Elements of the Career Clusters as Interpreted by V-TECS

USOE / OVÆE Career Cluster Title

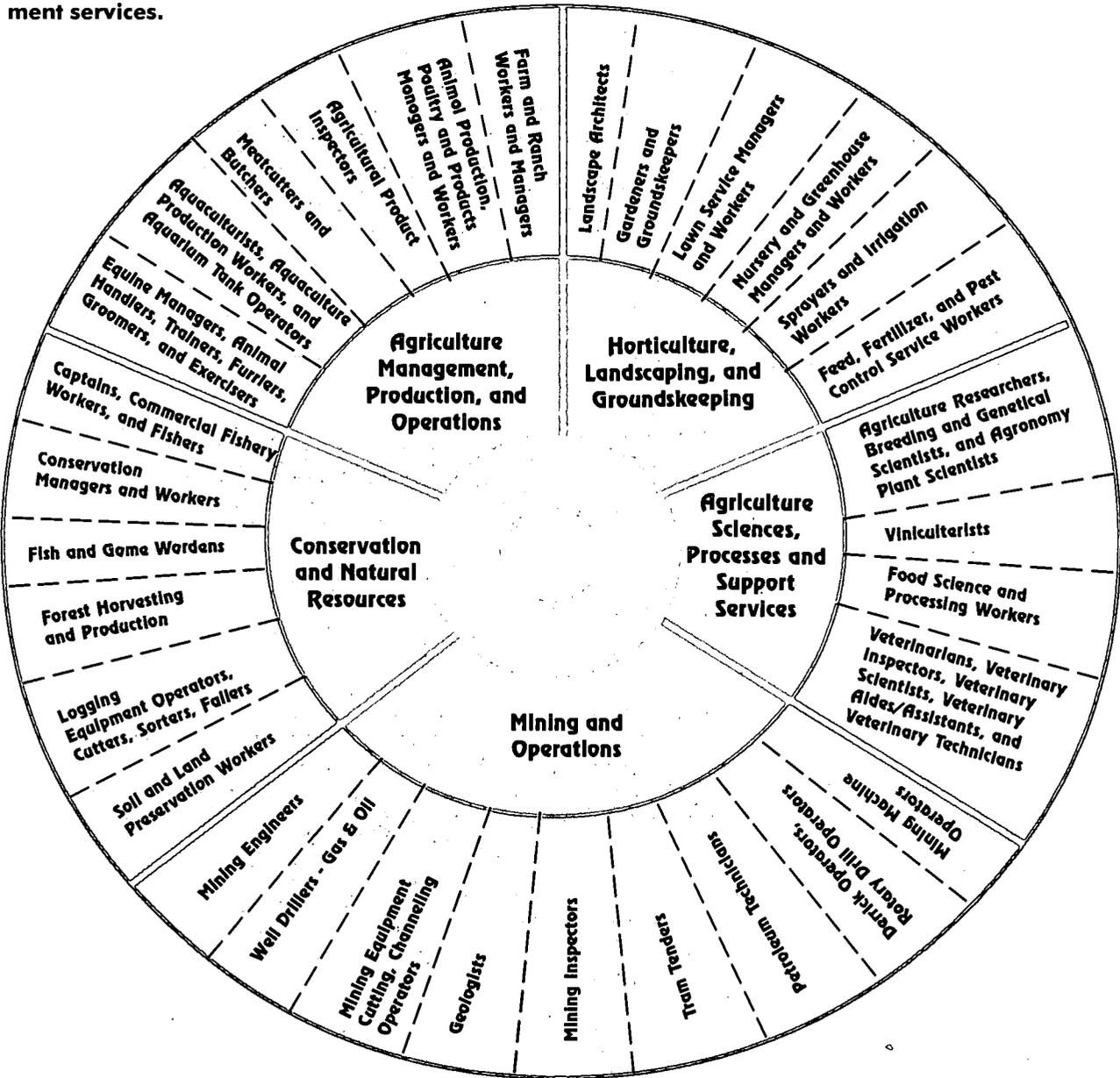


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Source of Career Cluster Titles and Definitions is the July 2000 U. S. Department of Education, Office of Vocational Technical Education, Career Cluster Brochure.

Agriculture and Natural Resources

Planning and managing agriculture, food, fiber, and natural resources systems. Production of agricultural commodities, including food, fiber, wood products, horticultural crops, and other plant and animal products. Financing, processing, and marketing and distribution of agricultural products; farm production and supply and service industries; horticulture and landscaping services, and the use and conservation of land and water resources; development and maintenance of recreational resources. It also includes mining and extraction operations and related environmental management services.

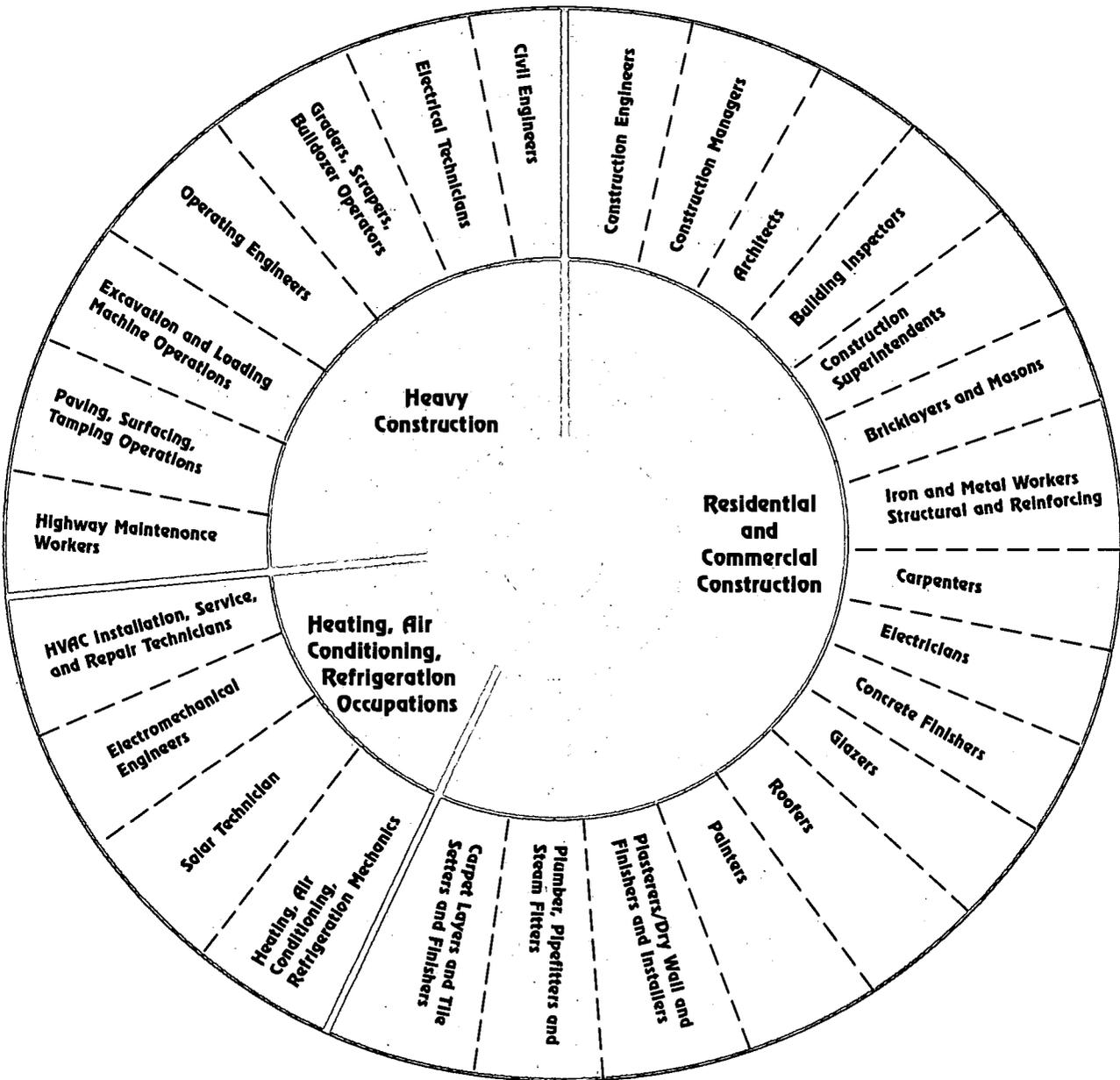


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Architecture and Construction

Designing, planning, managing, building, and maintaining physical structures and the larger built environment including roadways and bridges and industrial, commercial and residential facilities and building.

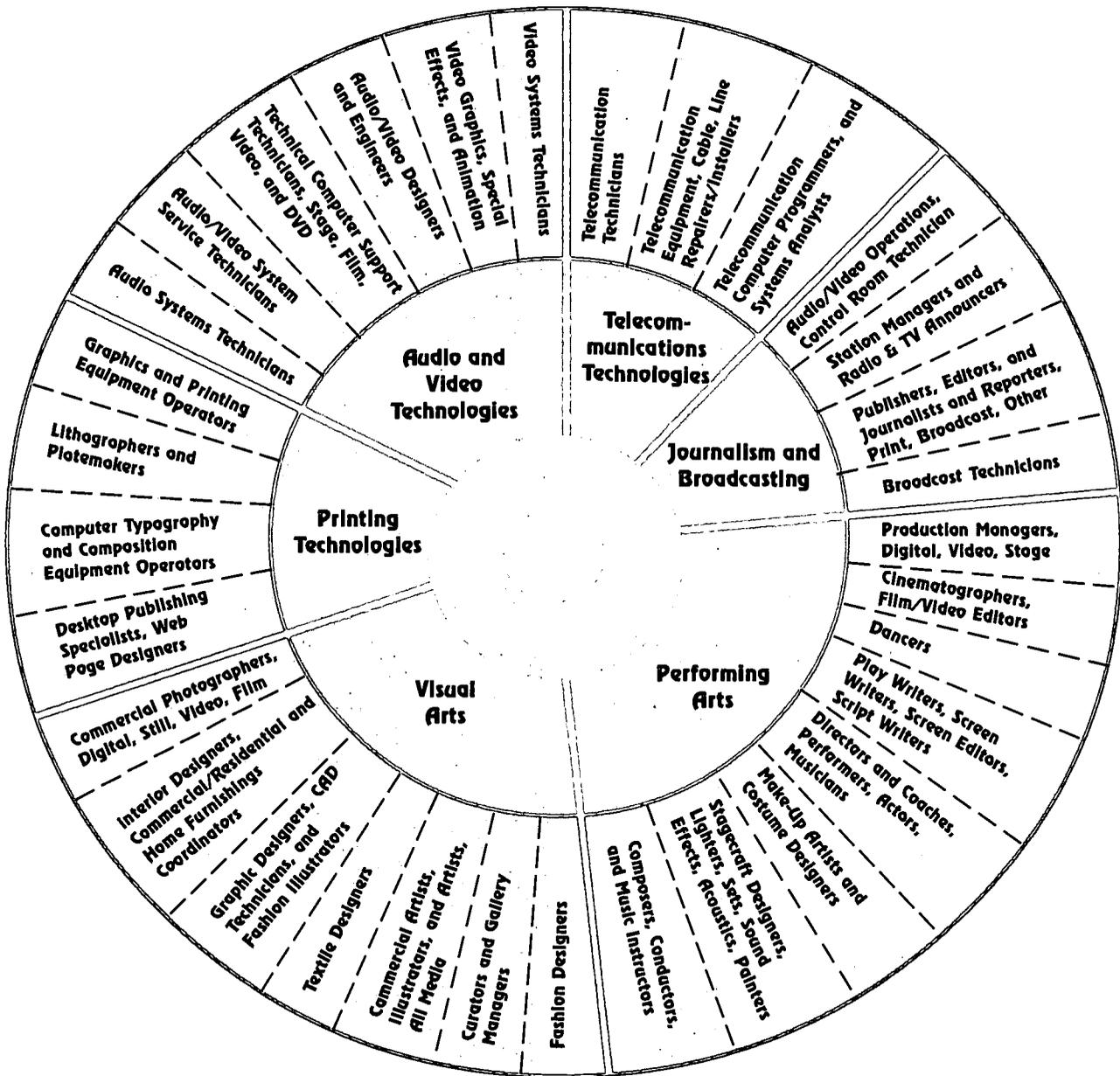


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Arts, Audio/Video Technology and Communications

Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

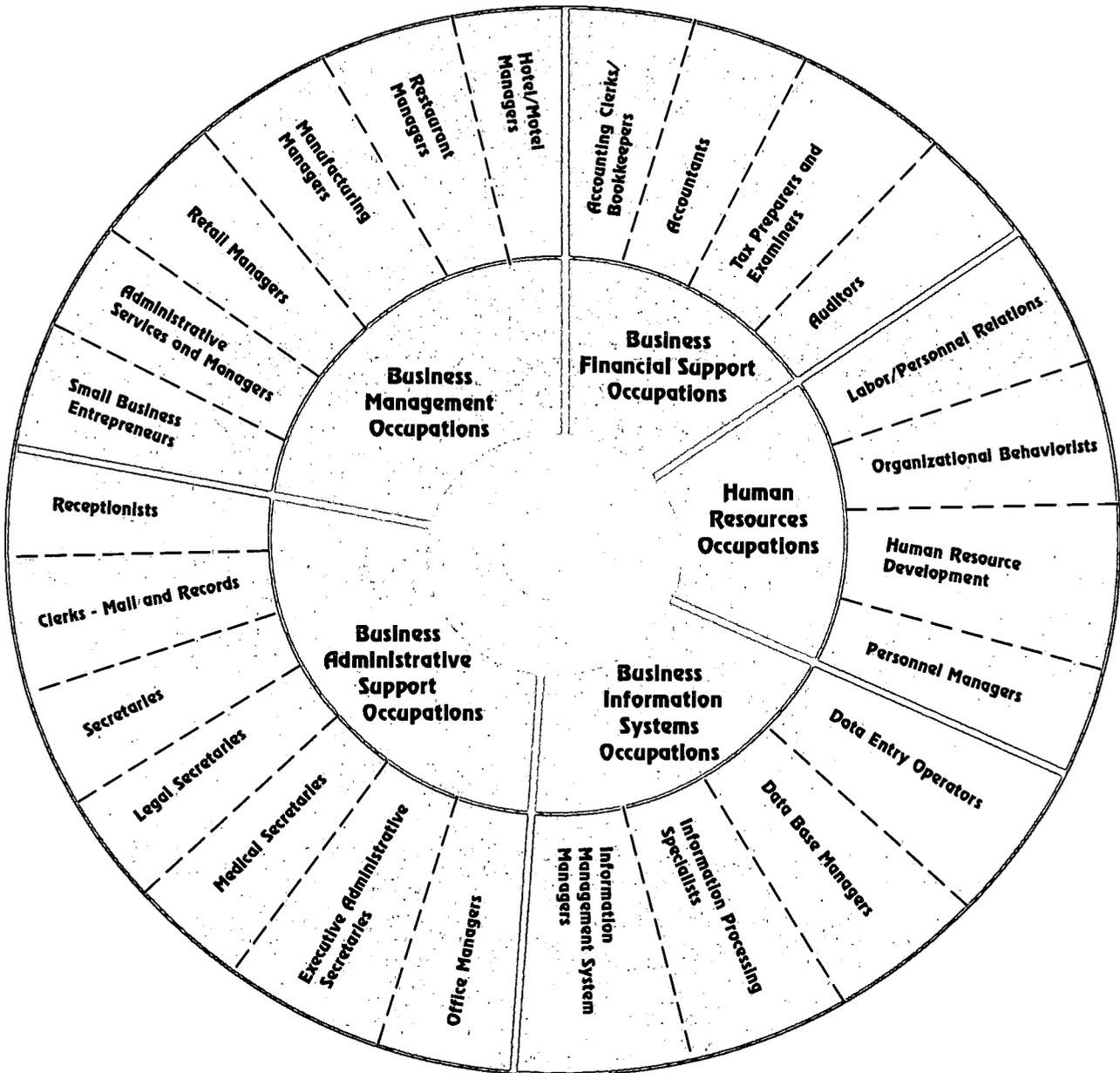


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Business and Administration

Planning, managing, and providing administrative support, information processing, accounting, and human resource management services and related management support services.

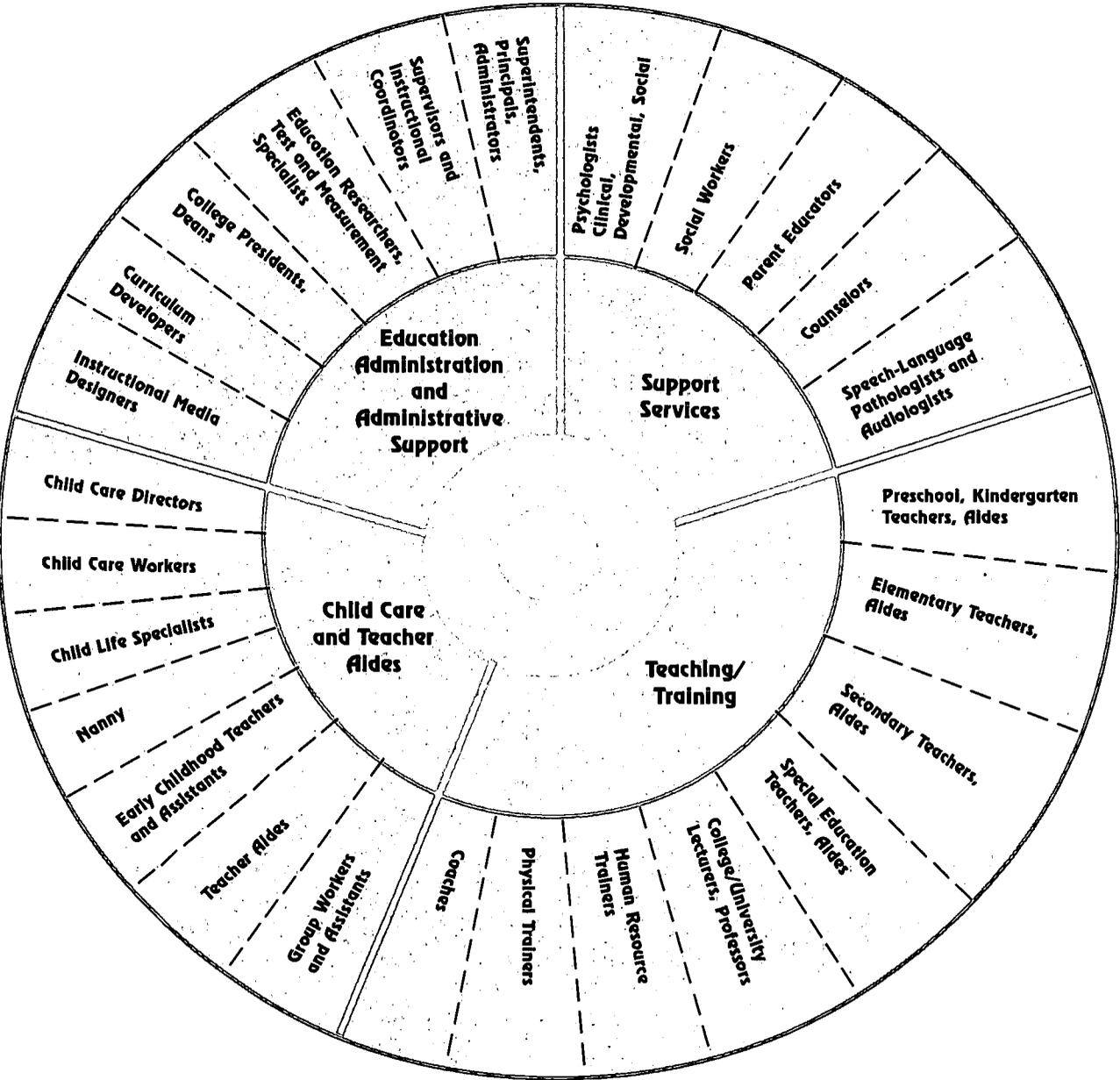


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Education and Training

Planning, managing and providing education and training services, and related learning support services including assessment and library and information services.

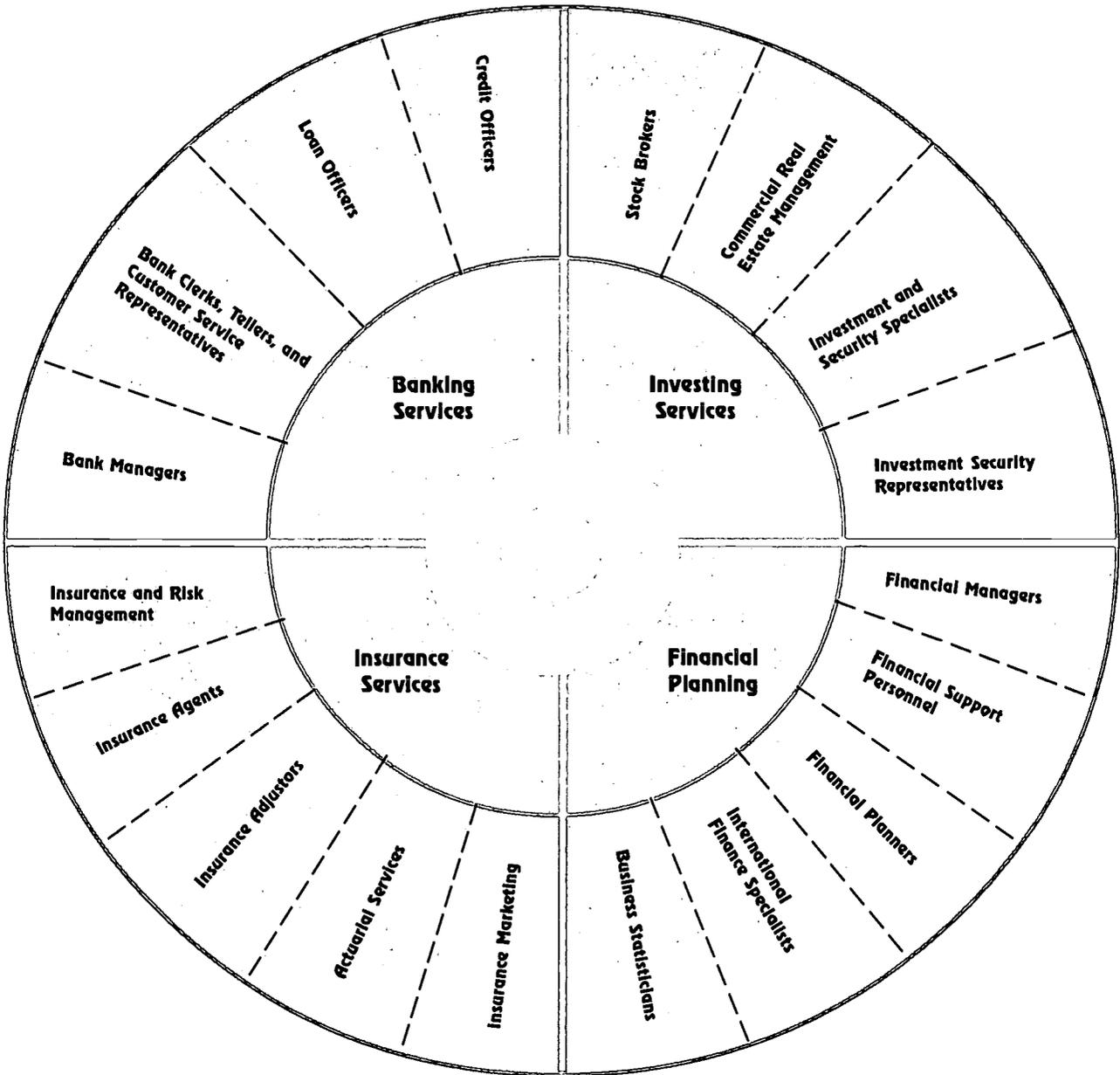


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Finance

Planning, managing and providing banking, investment, financial planning, and insurance services.

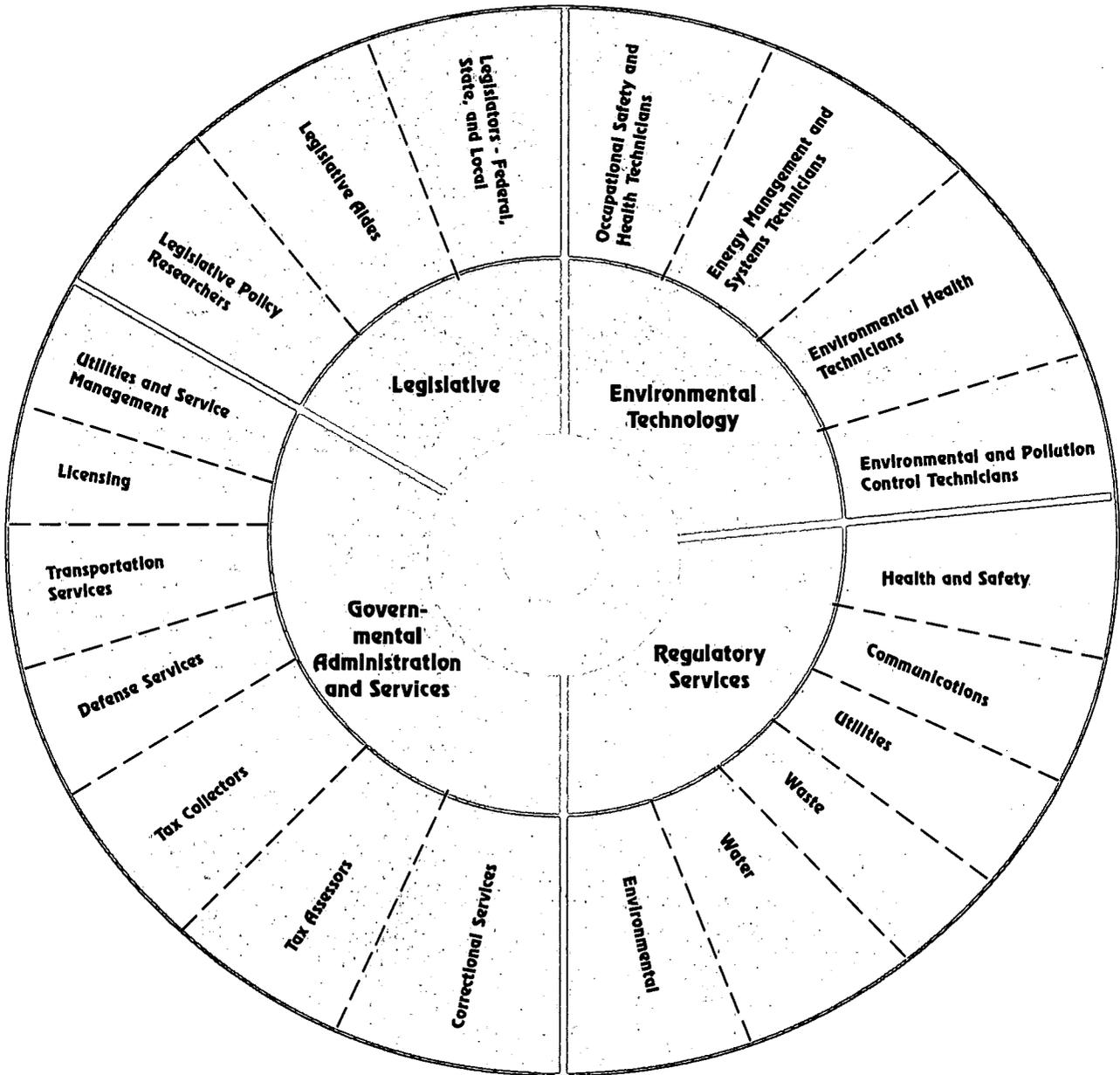


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Government and Public Administration

Planning, managing and providing government legislative and administrative and regulatory services and related general purpose government services at the federal, state, and local levels.

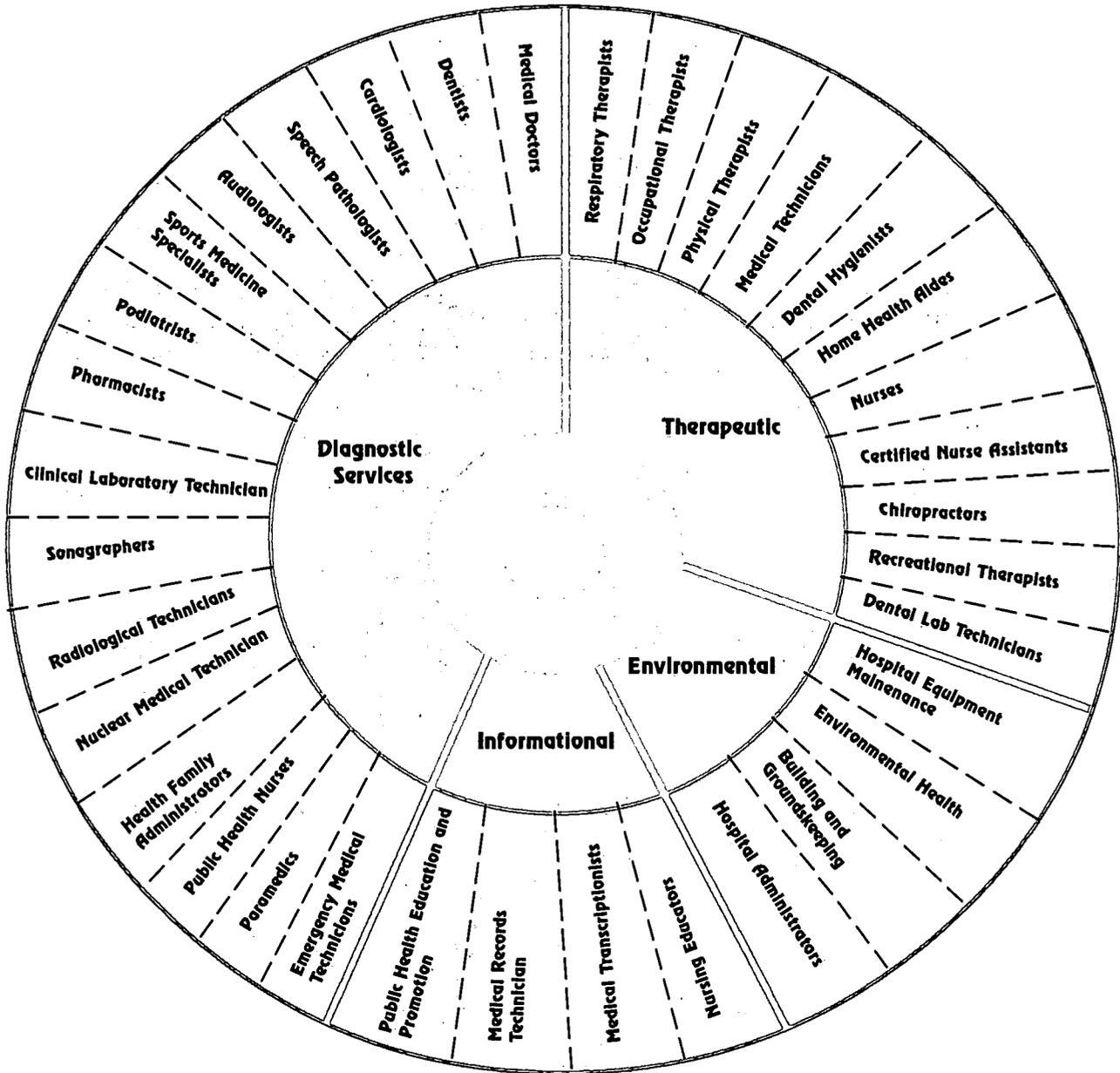


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Health Science

Planning, managing, and providing diagnostic, therapeutic, and information and environmental services in health care.

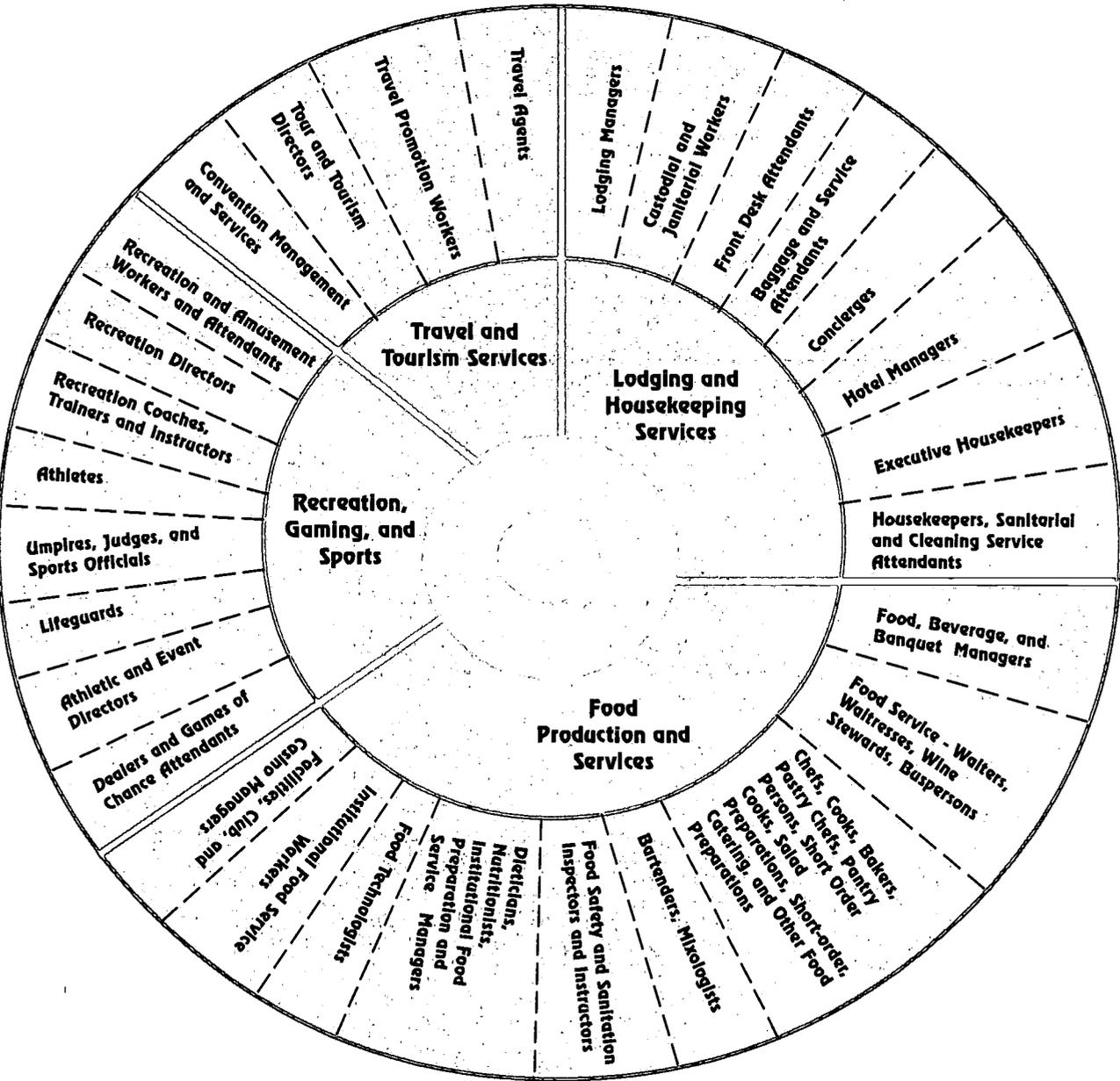


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Hospitality and Tourism

Planning, managing, and providing lodging, food, recreation, convention and tourism, and related planning and support services such as travel-related services.

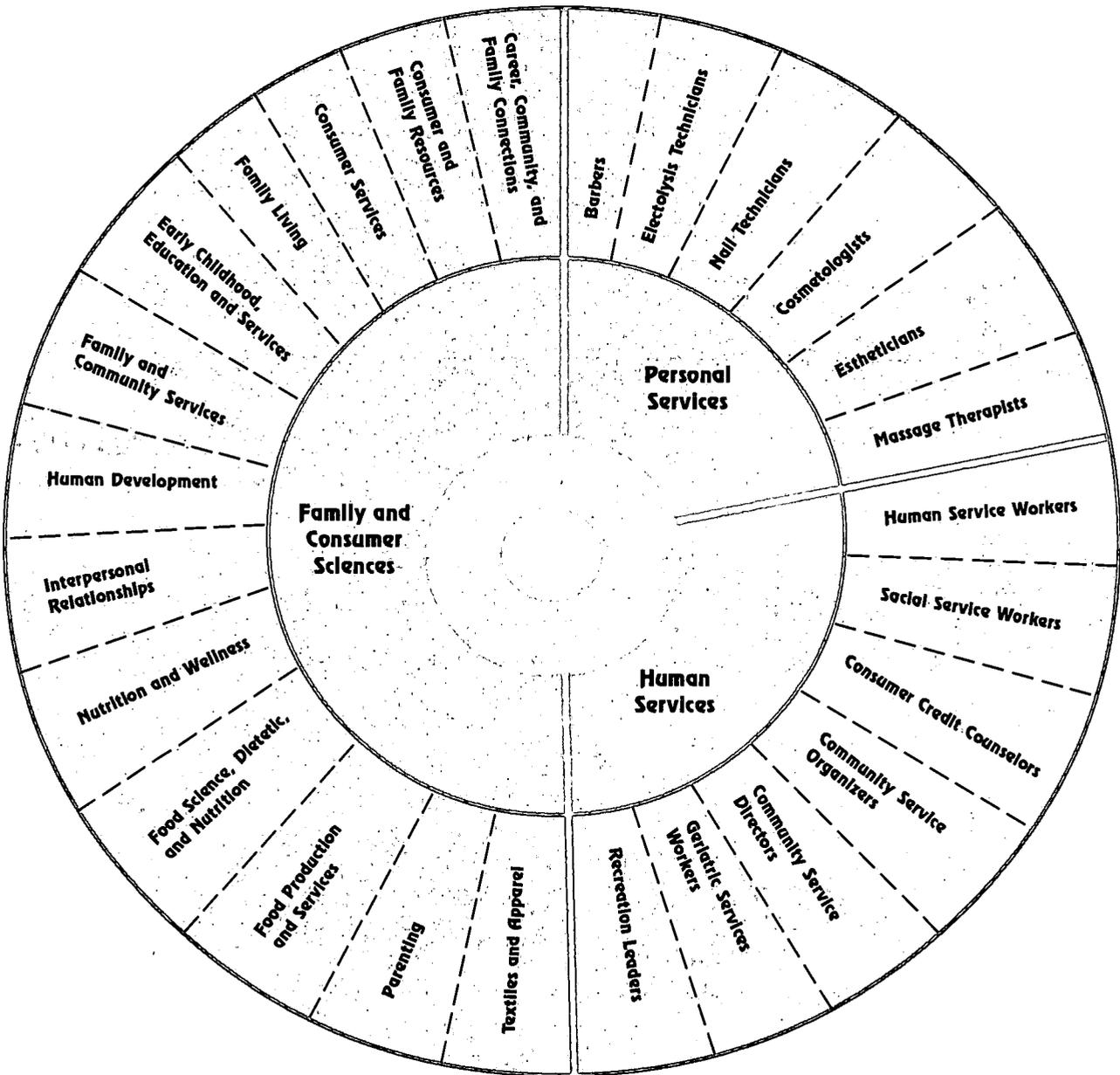


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Human Services

Planning, managing, and providing human services including social and related community services.

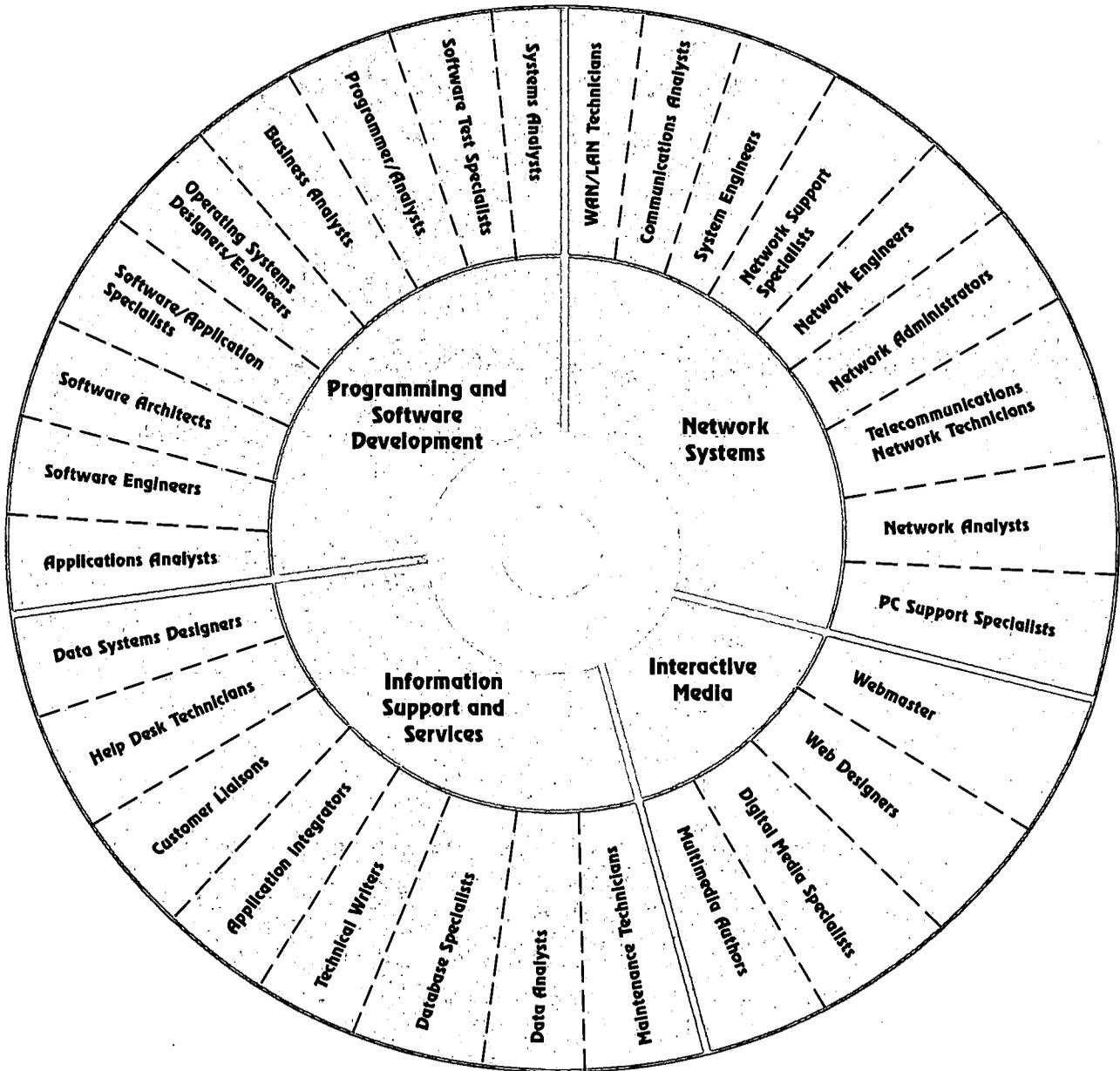


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Information Technology

Designing, developing, managing and supporting hardware, software, multimedia and systems integration services.

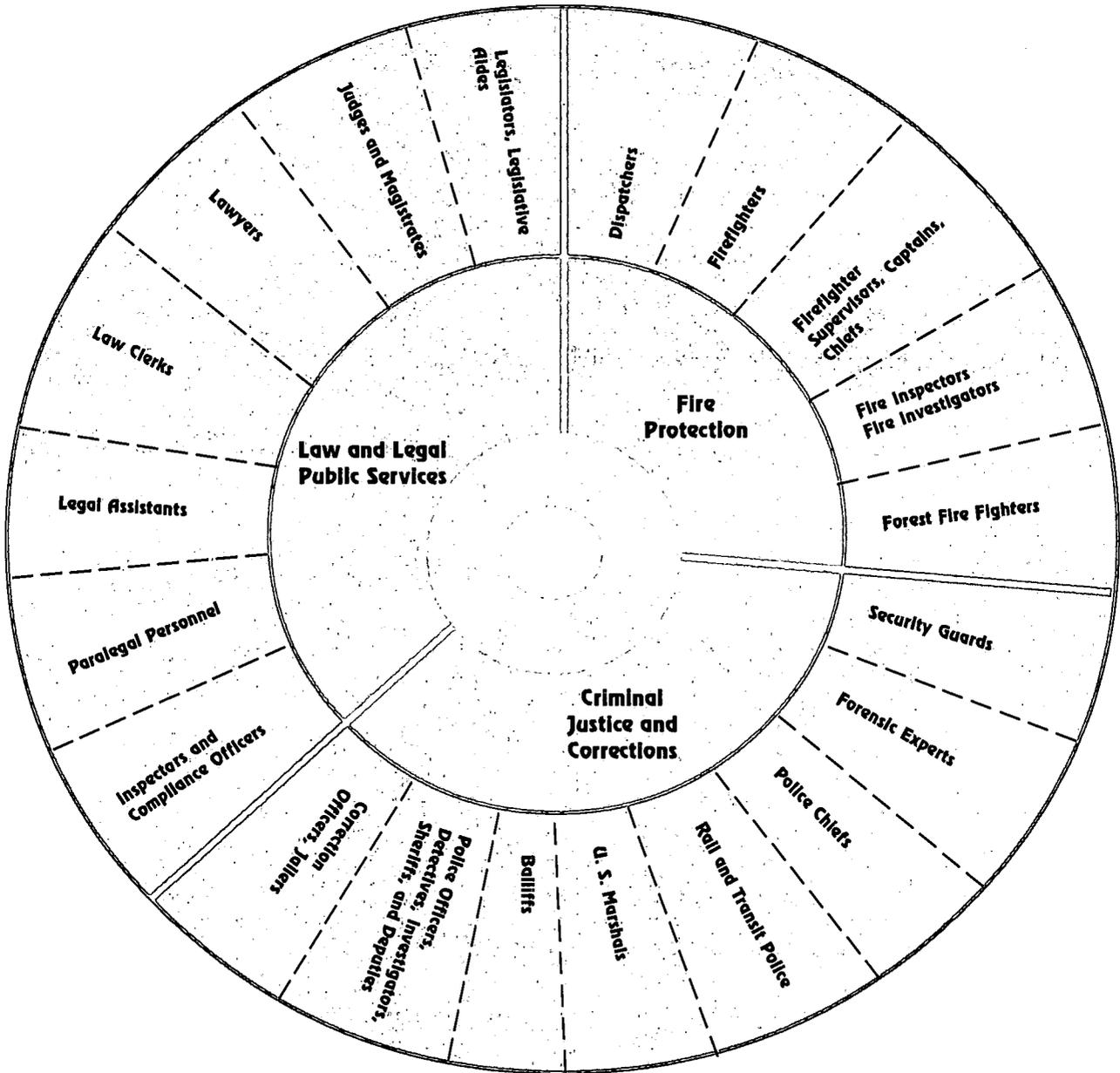


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Law and Public Safety

Planning, managing, and providing judicial, legal, and protective services including professional and technical support services in the fire protection and criminal justice systems.

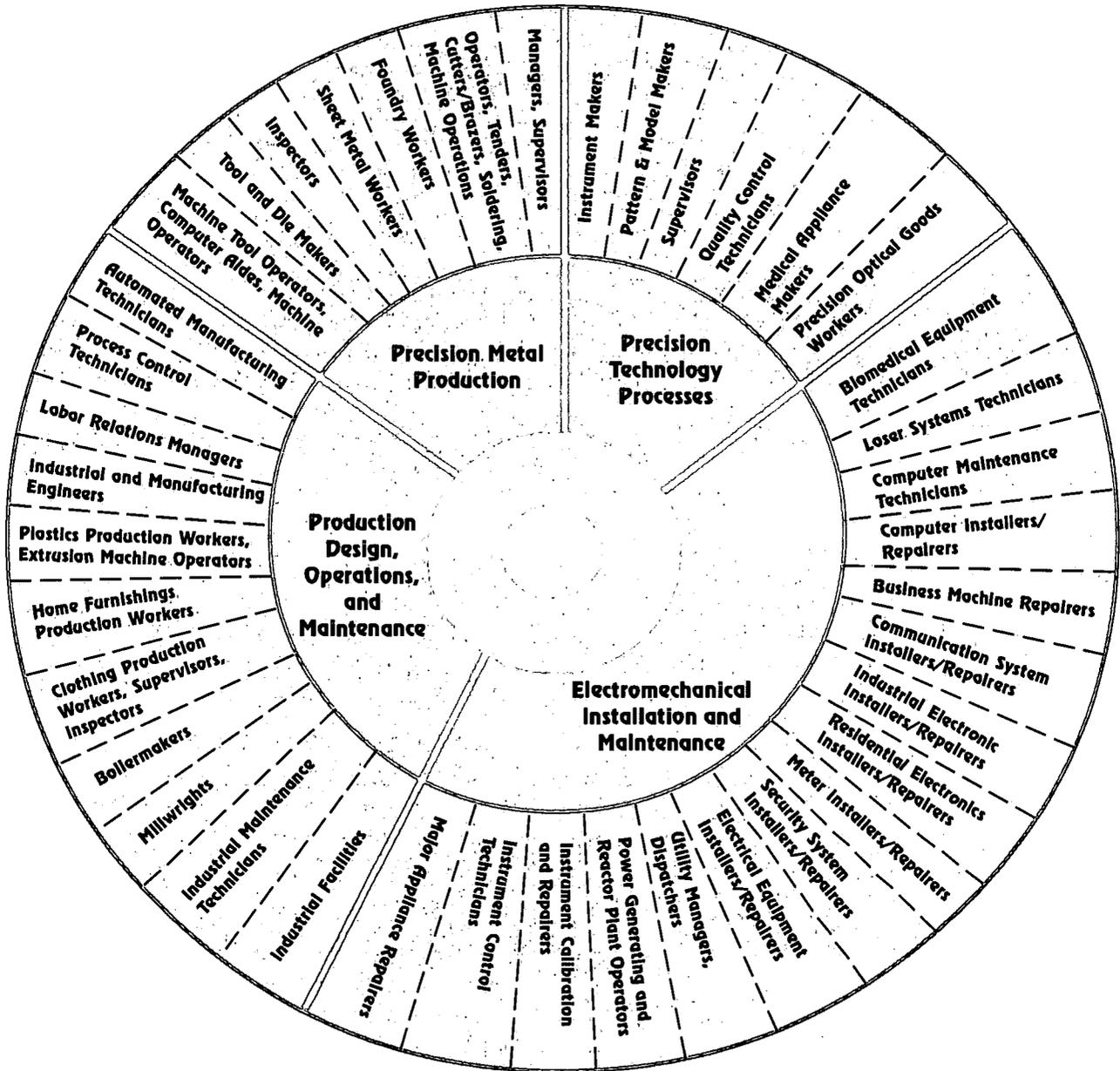


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Manufacturing

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.

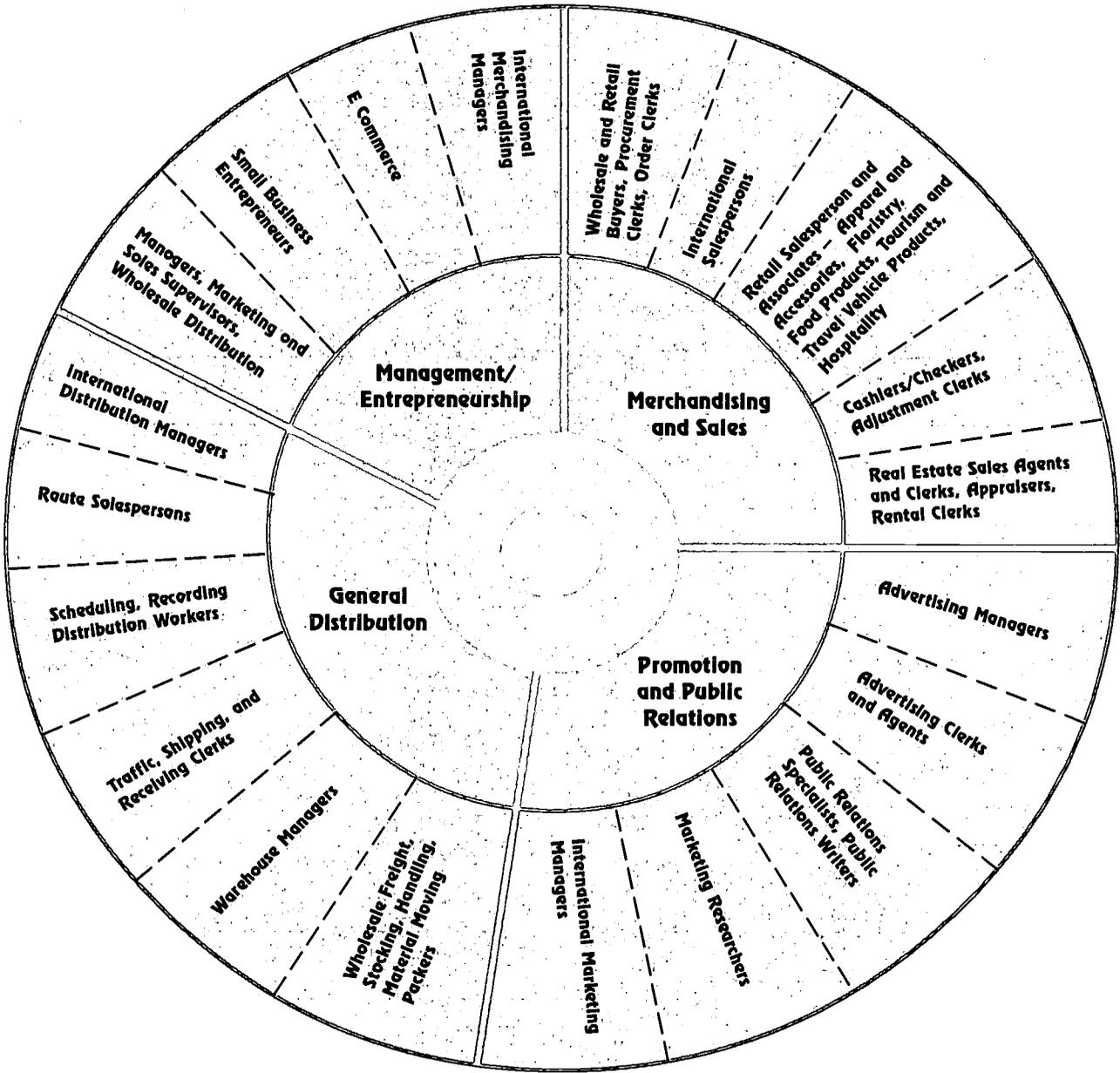


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Retail/Wholesale Sales and Service

Planning, managing, and performing wholesaling and retailing services and related marketing and distribution support services including merchandise/product management and promotion.

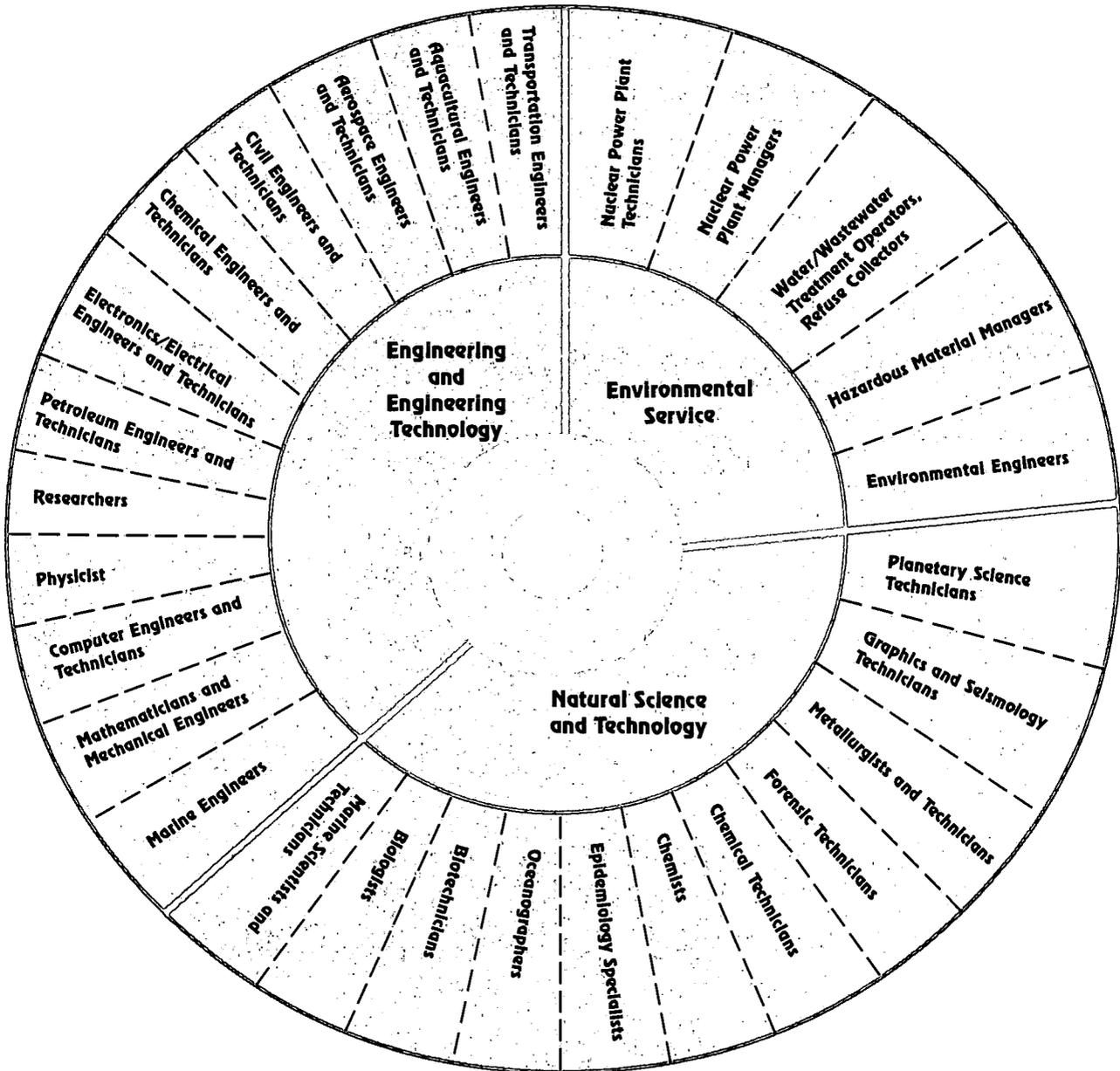


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Scientific Research and Engineering

Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.



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Transportation, Distribution, and Logistics Services

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.



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