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**PENNSYLVANIA ASSOCIATION
OF
AGRICULTURAL EDUCATORS**

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State Board of Education
Commonwealth of Pennsylvania
Department of Education
333 Market Street
Harrisburg, PA

INDEPENDENT REGULATORY
REVIEW COMMISSION

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Dear State Board of Education:

The Pennsylvania Association of Agricultural Educators (PAAE) wishes to express its gratitude for your cooperation with Chapter 339, however we have a few questions. PAAE has worked professionally with the Pennsylvania Department of Education (PDE's) Bureau of Career and Technical Education and the Pennsylvania Department of Agriculture (PDA) during the past two years. We have provided comment to the Bureau about revisions and are in agreement with most of the amendments that were made to Chapter 339.

The changes that we support deal with the minimum total hour requirements needed for state vocational reimbursement. One such beneficial change is in section 339.22 program content in which the minimum time requirement was redrafted to allow for school entities to have more flexibility in reaching the minimum requirement. Programs will now need to meet a total minimum time requirement instead of 360 hours per year.

Another beneficial change was language that reinstated in the program content section that recognizes supervised agricultural experiences (SAE). SAE's are an important part of our curriculum and agricultural programs. The new language allows programs to count hours from SAE's towards the minimum time requirement. This provides programs even more flexibility to reach the minimum time requirements.

Also in the program content section, language that was removed that determined 120 clock hours equals one credit. This will allow school entities to determine how many clock hours equals one credit based upon their school schedule.

PAAE is in support of the previous changes of Chapter 339. We however, are concerned that language was not included in the revision of Chapter 339 concerning the ability to count academic courses towards the minimum time requirement. The Bureau of Career and Technical

Education has agreed to allow agricultural education programs to count approved academic courses that will be identified on each Agriculture Classification of Instructional Program (CIP) description. These approved academic courses will be listed on PDE's website and will need to be included in each programs scope and sequence. PAAE has negotiated with PDE on what academic courses could be counted. We appreciate this additional flexibility. This gives our students the ability to increase their academic rigor. PAAE is concerned that the Bureau's interpretation of Chapter 339 and the website could be changed with simply an administrative change. This would prevent agricultural education programs from being able to count academic courses toward the minimum hour requirement. Currently academic courses are only inferred to in Chapter 339 and we feel more specific language is needed on this issue.

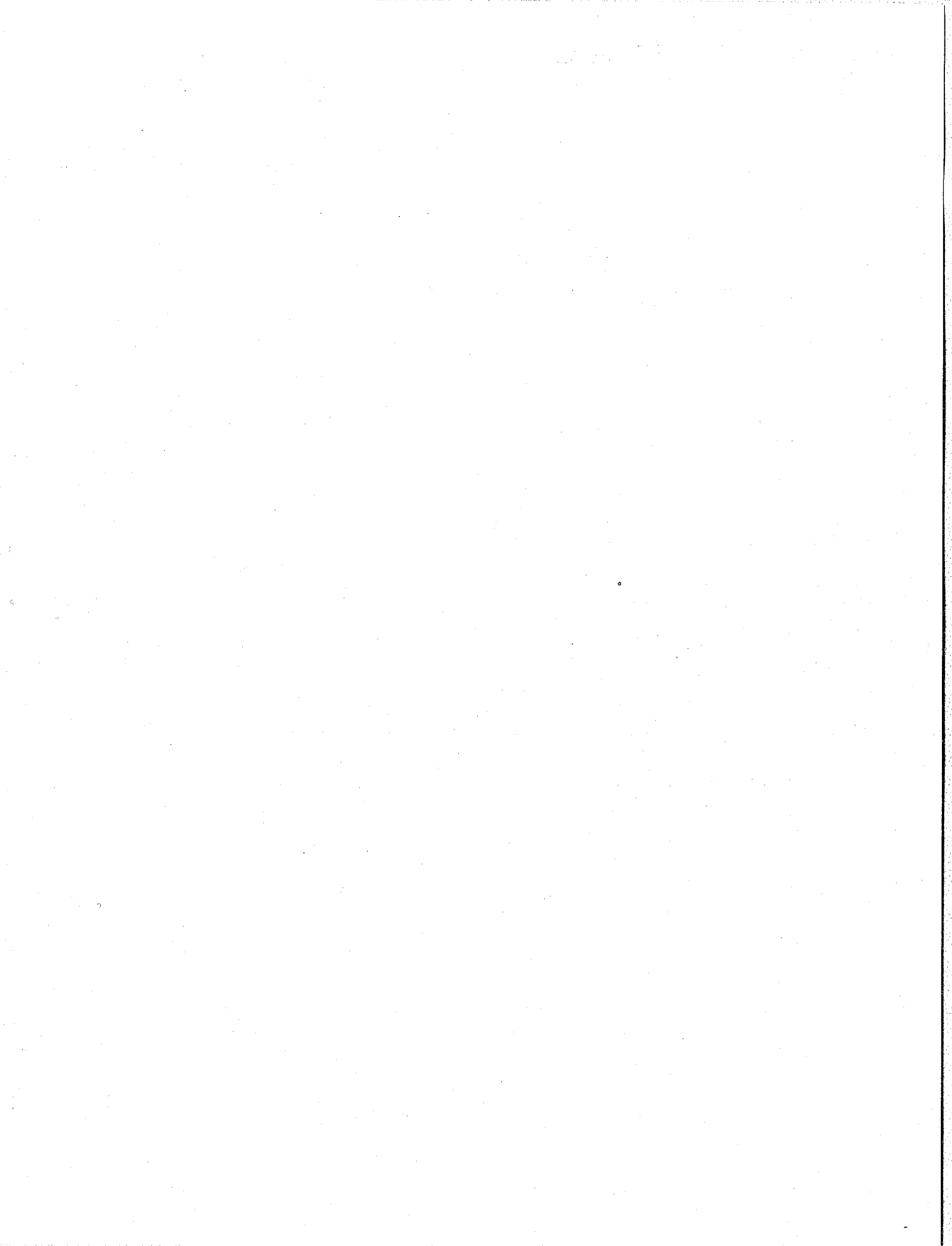
In closing, PAAE believes that the future of vocational programs in our school districts will be directly affected by Chapter 339. PAAE is supportive of the Chapter 339 revisions that provided more flexibility for schools to meet the minimum total hour requirement for state reimbursement but question why language was not included for being able to count academic classes. The Pennsylvania Association of Agricultural Educators thanks Pennsylvania Department of Education and Pennsylvania Department of Agriculture for the opportunity to work professionally to help improve the quality of vocational programs. Allowing us to help ensure that agricultural education may continue to be funded and play a vital role in today's educational systems.

Respectfully,
Gretchen Dingman, PAAE President

cc: House Education Committee
Senate Education Committee

Amend school Code by inserting into section _____ of the _____ of _____.

The department shall develop an approved list of academic courses to be applied by school entities to achieve the minimum total hour requirement for all career and technical programs. Academic courses shall make up no more than 40% of a students program instructional time.



To: PAAE Board Members

From: Christopher D. Weller, Agricultural Education Advisor

Subject: Academic courses required in the agriculture field of study

Attached is the list of PDE approved academic courses for agricultural education by CIP #. These approved academic courses will count towards the hour requirements as defined in Chapter 339 for Agricultural Approved Programs.

These courses need to be listed on your scope and sequence that is contained in the PDE, CATS system. The approved academic courses will show on the scope and sequence as both technical and academic courses.

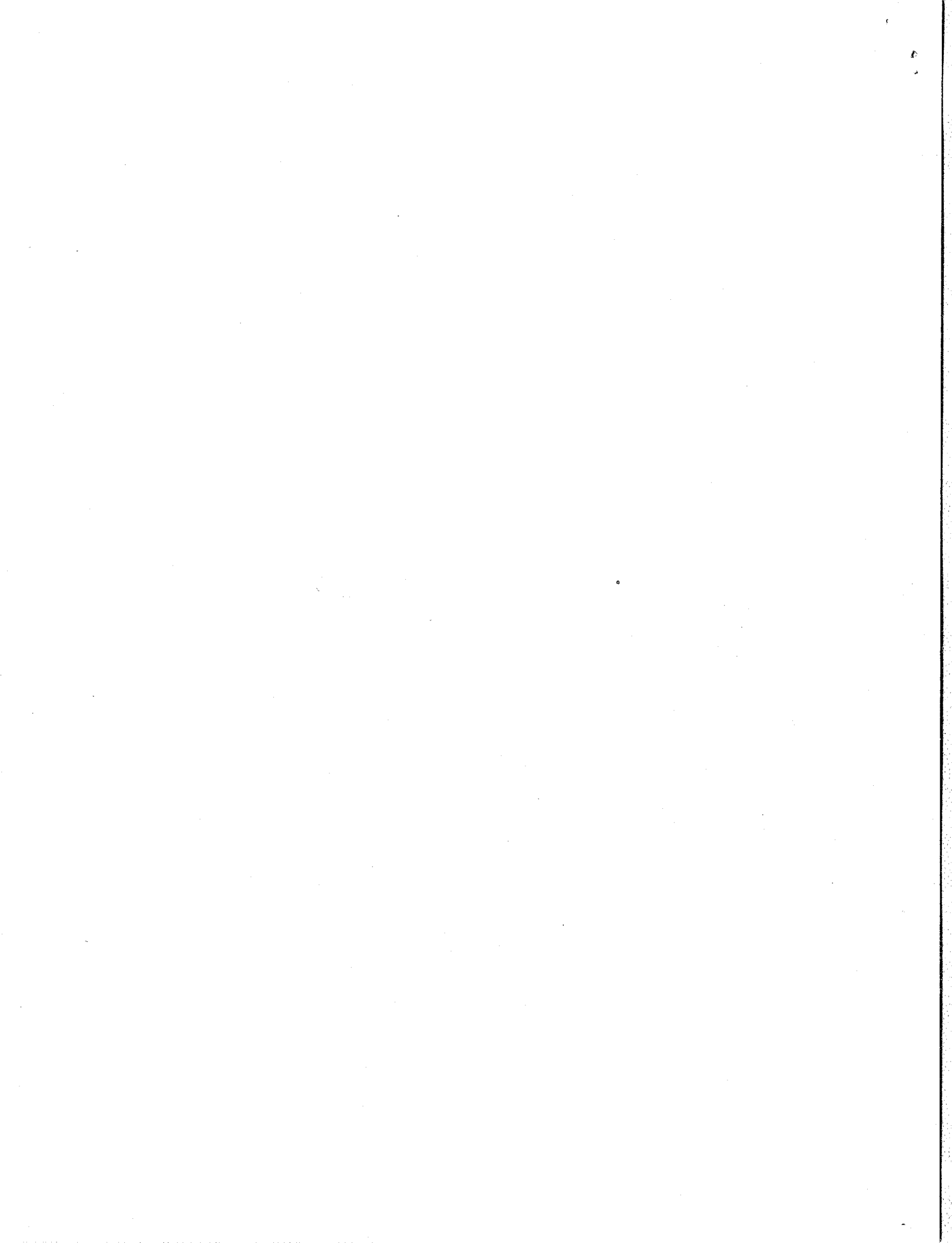
This document is divided into 2 classes: 1. Academic courses with blanket approval. 2. Courses that PDE will consider for specific programs only after the local educational agency demonstrates a direct link to the local curriculum and also obtains local occupational advisory approval.

PDE has determined that **no more** than 40% (4 credits out of 10) maybe from academic courses as listed.

Example: A four year approved program is required to have a total of 1320 hours, 40% of 1320 hours will equal 528 hours.

School district A has a 4 year (1320 hours) agriculture program. They have 180 days of student contact with 43 minute periods. This would equal 130 hours/credit requiring the school district to have 10 courses with the academic courses being only 4 of them. The remaining 6 course would need to be agricultural (Technical) course.

SAE maybe used for hour requirements only if the school awards credit, and students are enrolled in an agricultural courses the same year or years SAE credit is awarded.



SAMPLE SCOPE AND SEQUENCE

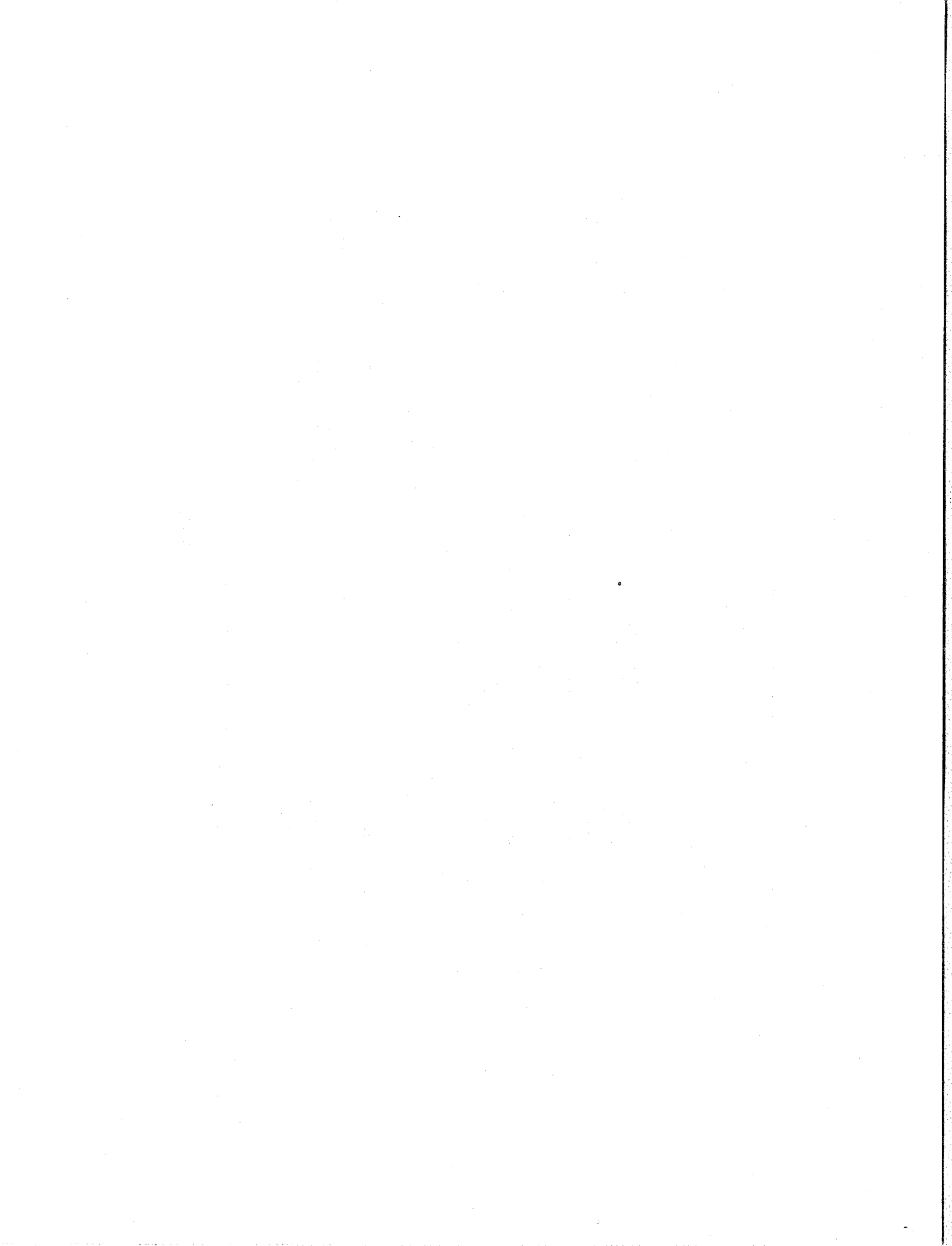
Technical Subject Hours – List the technical courses/major topics for the program. *Technical hours must comply with the hourly requirement in Chapter 339 (240 hours for Grade 9; 360 hours for Grades 10, 11, and 12; and 720 hours for one-year/senior-only programs).

Academic Subjects – Research shows that career success requires the same level of college prep courses as postsecondary success requires. The Department of Education's focus is to ensure that every student graduates prepared for college and a career. The scope and sequence cannot include lower academic courses such as applied math or general science as those courses defeat the mission of PDE which is to ensure that all students perform proficiently or higher on the PSSA and earn the Pennsylvania Skill Certificate. The Project 720 website (<http://www.pde.state.pa.us/p720/view.asp?a=3&q=112820>) can assist you in preparing a scope and sequence with the four years of academic courses recommended by School Code.

CTCs can use the generic scope and sequence below to prepare a scope and sequence that reflects the variety of academic course titles used by the sending districts.

Individualize the Scope and Sequence below for each PDE-approved career and technical education program.

Subject – Hours	Grade 9 – Hours	Grade 10 – Hours	Grade 11 – Hours	Grade 12 - Hours
Technical 360*			Specify Major Topic and Hours	Specify Major Topic and Hours
			Specify Major Topic and Hours	Specify Major Topic and Hours
			Specify Major Topic and Hours	Specify Major Topic and Hours
			Specify Major Topic and Hours	Specify Major Topic and Hours
English (4)	College Prep English I	College Prep English II	College Prep English III	College Prep English IV
Math (4)	Algebra I	Geometry	Algebra II	Higher-Level College Prep Math
Science (3)	Biology	Chemistry	Physics	
Humanities (covering these courses in any order) (3)	Civics	U.S. History	World History	
Other	Foreign Language I (recommended)	Foreign Language II (recommended)		



Career and Technical Education

CIP Codes

PENNSYLVANIA'S
APPROVED INSTRUCTIONAL TITLES FOR SECONDARY
CAREER AND TECHNICAL EDUCATION PROGRAMS
DESCRIPTION and CIP CODE

51.5999 HEALTH CARE TECHNOLOGY

A cluster industry/occupational program that provides for a sequence of secondary technical core and academic courses in a program of study. This program prepares individuals to apply knowledge and skills in the health occupations. Instruction is provided in the basic skills in a variety of areas associated with health occupations such as health and medical services, pharmaceutical and medical instruments and supplies. Instruction includes but is not limited to foundations of health (medical terminology); anatomy and physiology; legal, ethical and economic aspects of health care; clinical laboratory procedures; basic health occupational skills; aseptic techniques; OSHA regulations; and infection control. Clinical education is an integral part of the program. Science and math taught by certificated science and math teachers will be coordinated and deemed essential for students to successfully reach their career objectives.

<u>CERTIFICATE REQUIRED</u>	<u>CERTIFICATION METHOD</u>	<u>OCCUPATIONAL COMPETENCY AREA</u>	<u>OCCUPATIONAL COMPETENCY EVALUATION</u>
Vocational-Intern/ Instructional 2600	Vocational-Instructional (non-degree program)	*Clinical Laboratory Assisting 2208	Credential Review
		*Health Related Technology 2214	Credential Review
		*Health Assistant 2202	Credential Review
		Suggested Areas	
		**Dental Assistant 2201	Credential Review
		**Medical Assistant 2207	Credential Review

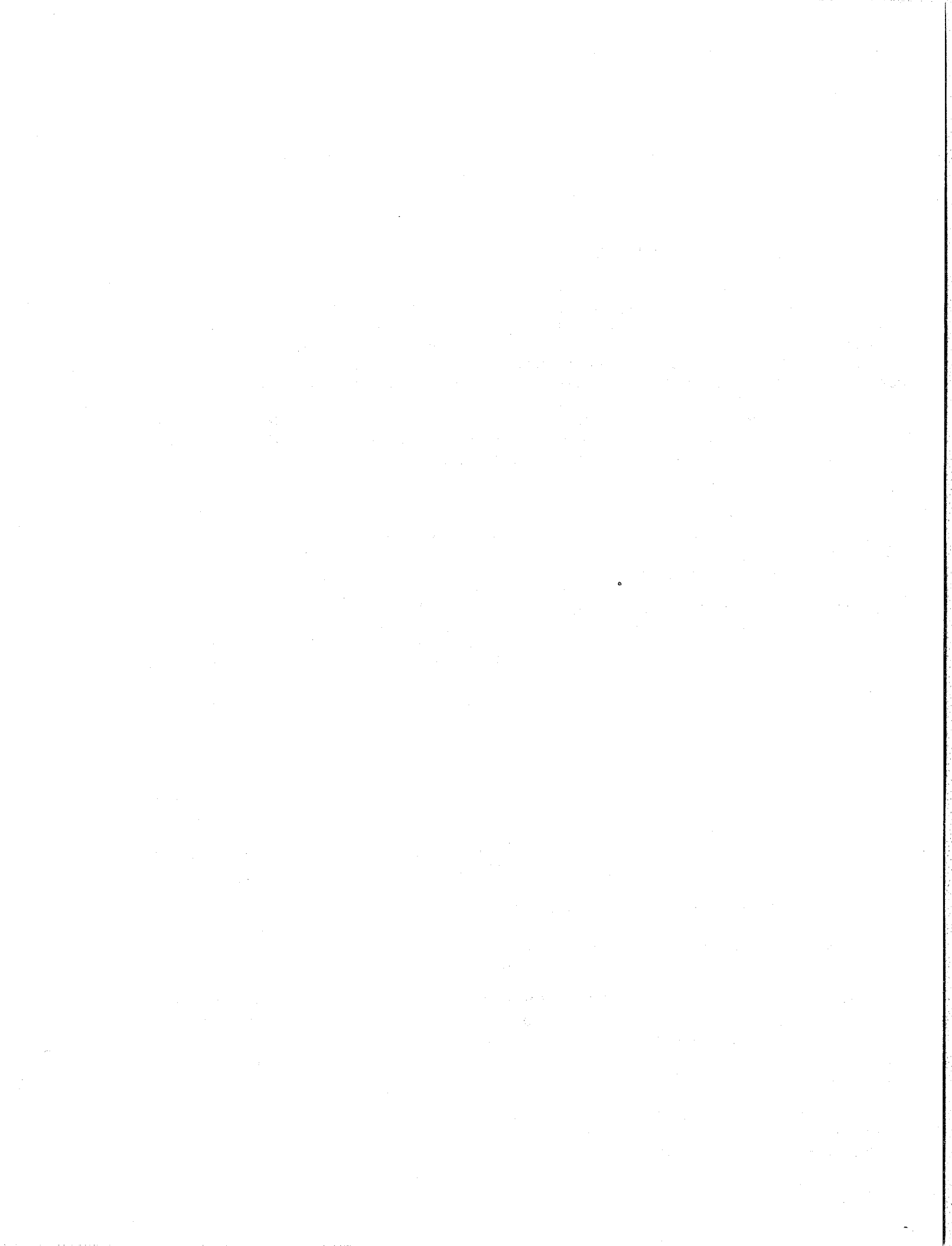
* These certification areas may teach the entire cluster.

** Professionals are limited in what they are allowed to teach within this cluster. Instructors can only teach in the area they are currently certified to teach.

NOTES: **None** of the two-asterisks (**) certificates can teach this entire program with only one of the listed certificates. There should be a minimum of at least two different certificates to teach this program. The certification areas will be determined by the approved technical core of planned sequence courses for that particular program; therefore, the certifications may **not** be limited to only the above list.

The following certificate is no longer issued but remains valid for teaching in this program:

*Allied Health Science Technology 2298



01.0000 AGRICULTURE, GENERAL

(Formerly 02.0101 Agriculture/Agricultural Sciences, General)

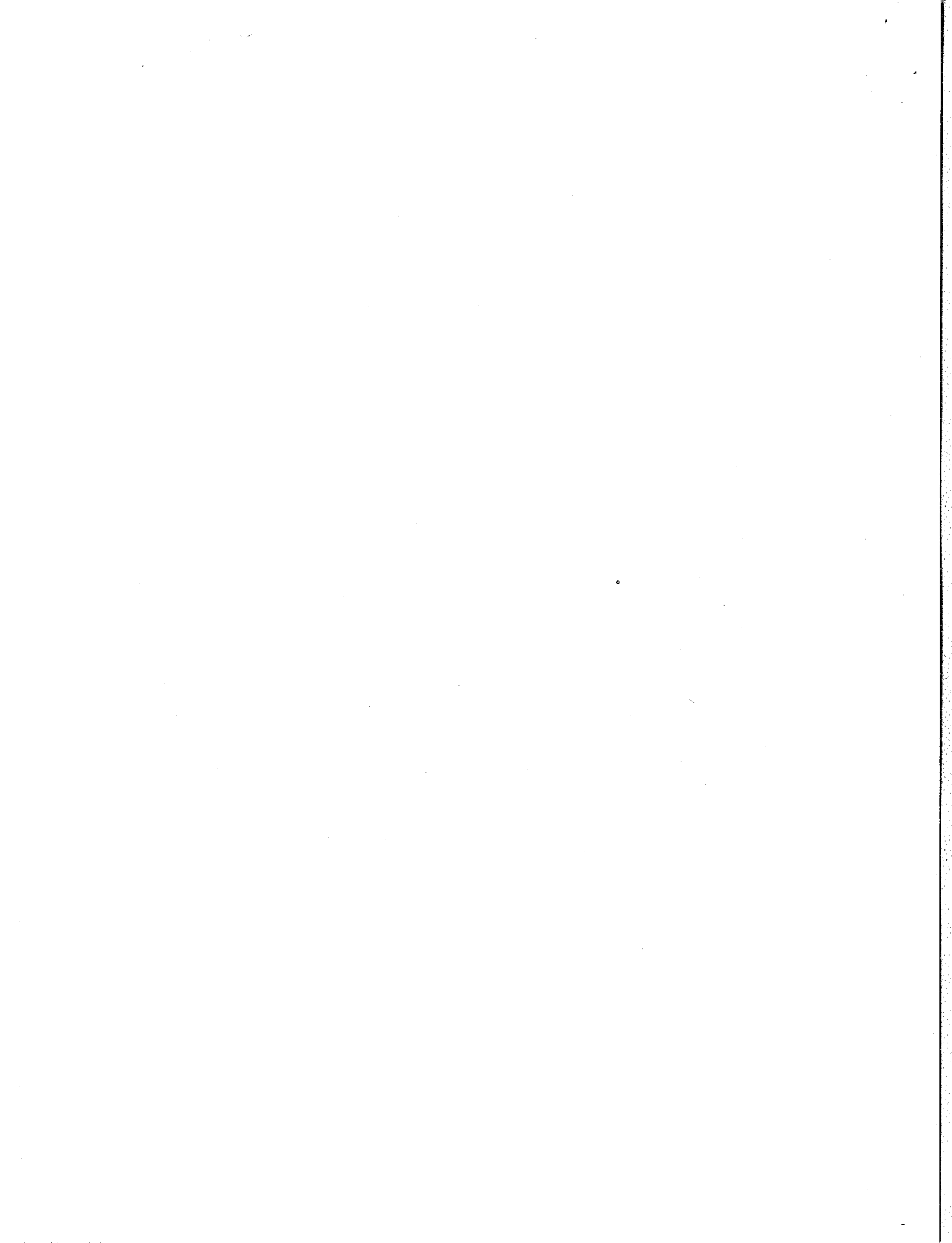
An instructional program that generally describes the principles and practices of agricultural research and production and may prepare individuals to apply such knowledge and skills to the solution of practical agricultural problems. This program includes instruction in basic animal, plant, soil science and mechanization, animal husbandry, plant cultivation, soil conservation and mechanical technology. Instruction may include an emphasis in aquaculture, hydroponics, food science and/or environmental science.

Academic Courses (Approved by PDE)

- Environmental Science is listed as one of the specific program of instruction for this CIP.
- Biology- Study of basic animal and plant structure and function along with basic cell functions and scientific research is needed as foundations for in-depth study in the field of agriculture
- Chemistry – Agriculture needs to deal with the composition, structure and properties of inorganic and organic compounds in the process of raising and processing agricultural products.
- Earth Science – The course increases the student's knowledge of Earth science including soil, which is listed in this CIP.
- Geometry – Principles of geometry are used in Mechanical Technology which is listed in this CIP.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Drafting & / or Computer Aided Design – These courses form a foundation for mechanical technology, which is listed as one of the specific program of instruction for this CIP.
- English – Research – A program that describes the principles and practices of agricultural Research is listed as one of the specifics of this CIP.
- Family and Consumer Science – Foods Course – Food science is listed as one of the specific program of instruction for this CIP.
- Speech & / or Creative Writing – These courses help students be able to write and explain solutions of practical agricultural problems, which is listed in the CIP.
- Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.



01.0105 AGRICULTURAL FARM SUPPLIES RETAILING AND WHOLESALING
(Formerly 01.0501 Agricultural Supplies Retailing and Wholesaling)

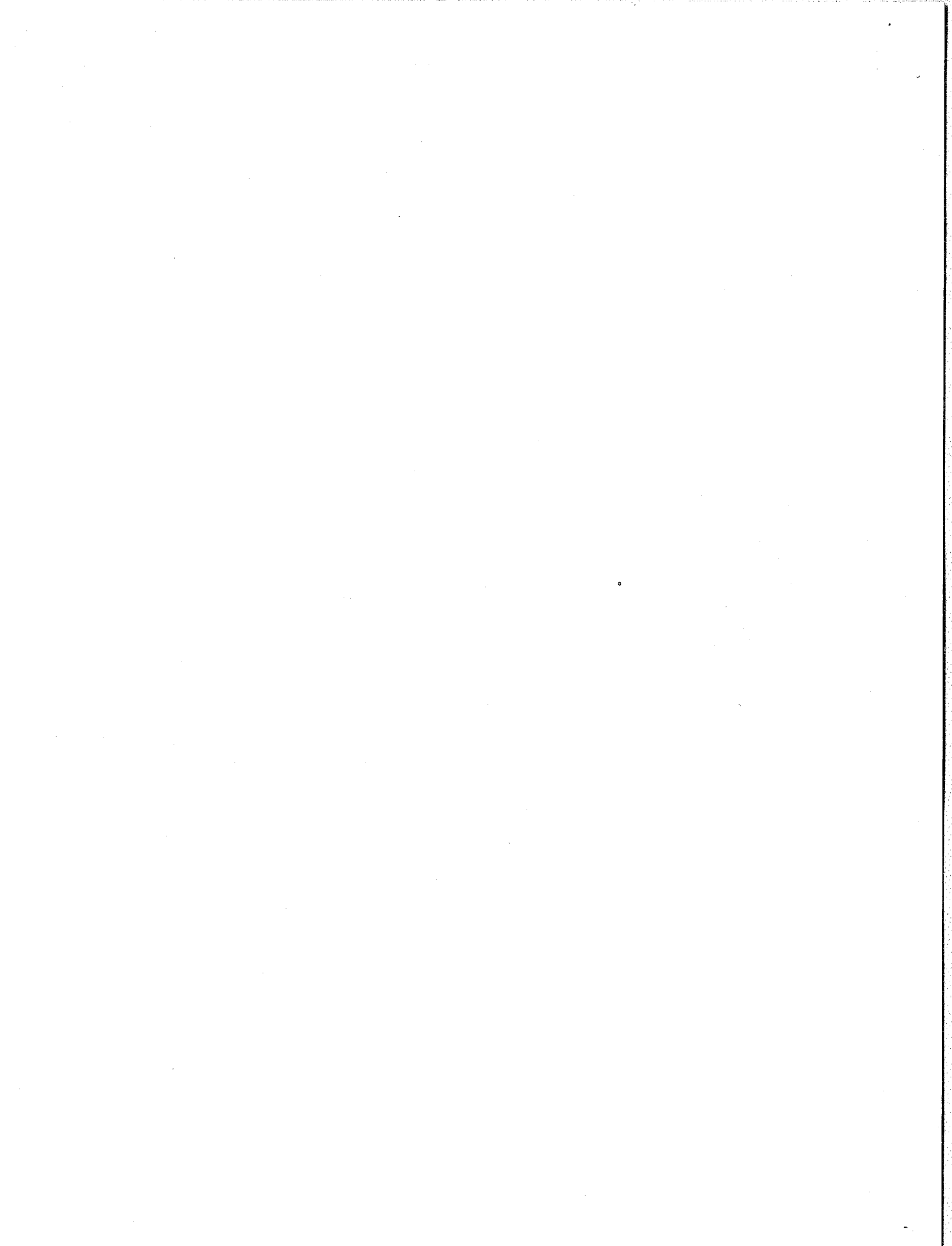
An instructional program that generally prepares individuals to sell supplies for agricultural production and processing, provide agricultural services and purchase and market agricultural products.

Academic Courses (Approved by PDE)

- Biology – Study of basic animal and plant structure and function along with basic cell functions and scientific research is needed as foundations for in-depth study in the field of agriculture.
- Accounting - The CIP title deals with retailing and wholesaling. An Accounting course deals with recording business transactions (retail and wholesale).
- Economics - This CIP deals with business in which you need to understand supply and demand, determination of pricing, and market structures. All of which is taught in Economics courses.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- *Family and Consumer Science- Foods course - Study of food processing techniques is listed as a program of study in this CIP Code. Understanding of food process techniques, along with storage and contamination of foods being processed.*
- *Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.*



01.0201 AGRICULTURAL MECHANIZATION, GENERAL
(Formerly 01.0501 Agricultural Supplies Retailing and Wholesaling)

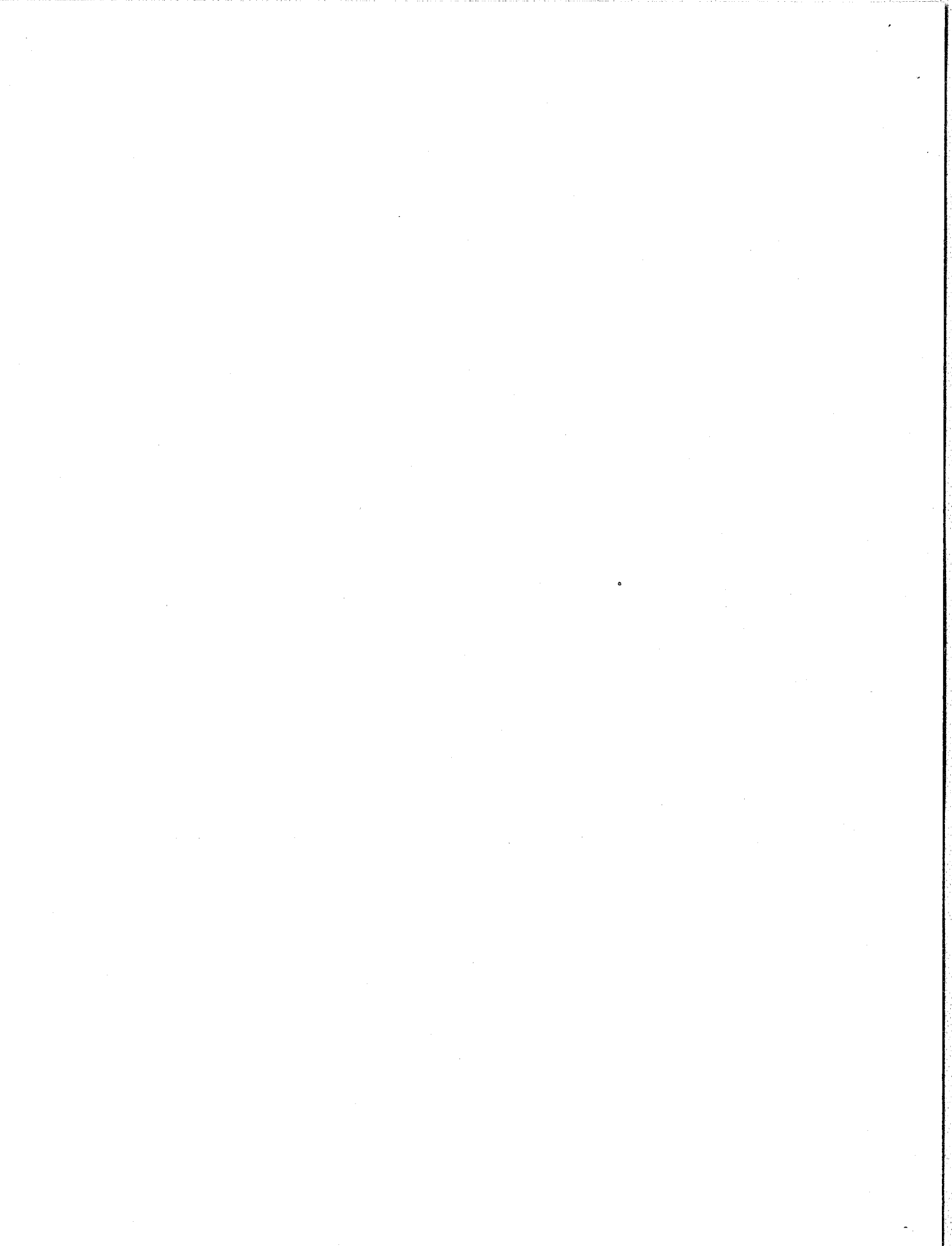
An instructional program that prepares individuals in a general way to sell, select and service agriculture or agribusiness technical equipment and facilities including computers, specialized software, power units, machinery, equipment, structures and utilities. This program includes instruction in agriculture power units, the planning and selection of materials for the construction of agriculture facilities; safe mechanical practices associated with water conservation, erosion control and data processing systems.

Academic Courses (Approved by PDE)

- Trigonometry – Foundation is needed in the design and construction of livestock and storage structures used in agriculture.
- Physics – The basic study of energy, heat, electricity, magnetism and atomic structure is needed for power, machinery, equipment and structure units.
- Computer Science – Agricultural mechanization CIP states that students need to understand computers, software and data processing systems as part of this program of study.
- Drafting & / or CAD – Helps form a foundation in the design and construction of livestock and storage structures used in agriculture.
- Environmental Science – Water conservation is listed in this CIP and it is a major topic of any Environmental Science course.
- Geometry- Teaches skills in area and volume which is very important to the design and construction of livestock and storage structures used in agriculture.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Business Education – The basic study of Business would help the student in the selling of agricultural technical Equipment which is stated in this CIP.
- Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system



01.0301 AGRICULTURAL PRODUCTIONS OPERATIONS, GENERAL
(Formerly 01.0301 Agricultural Production Workers and Managers, General)

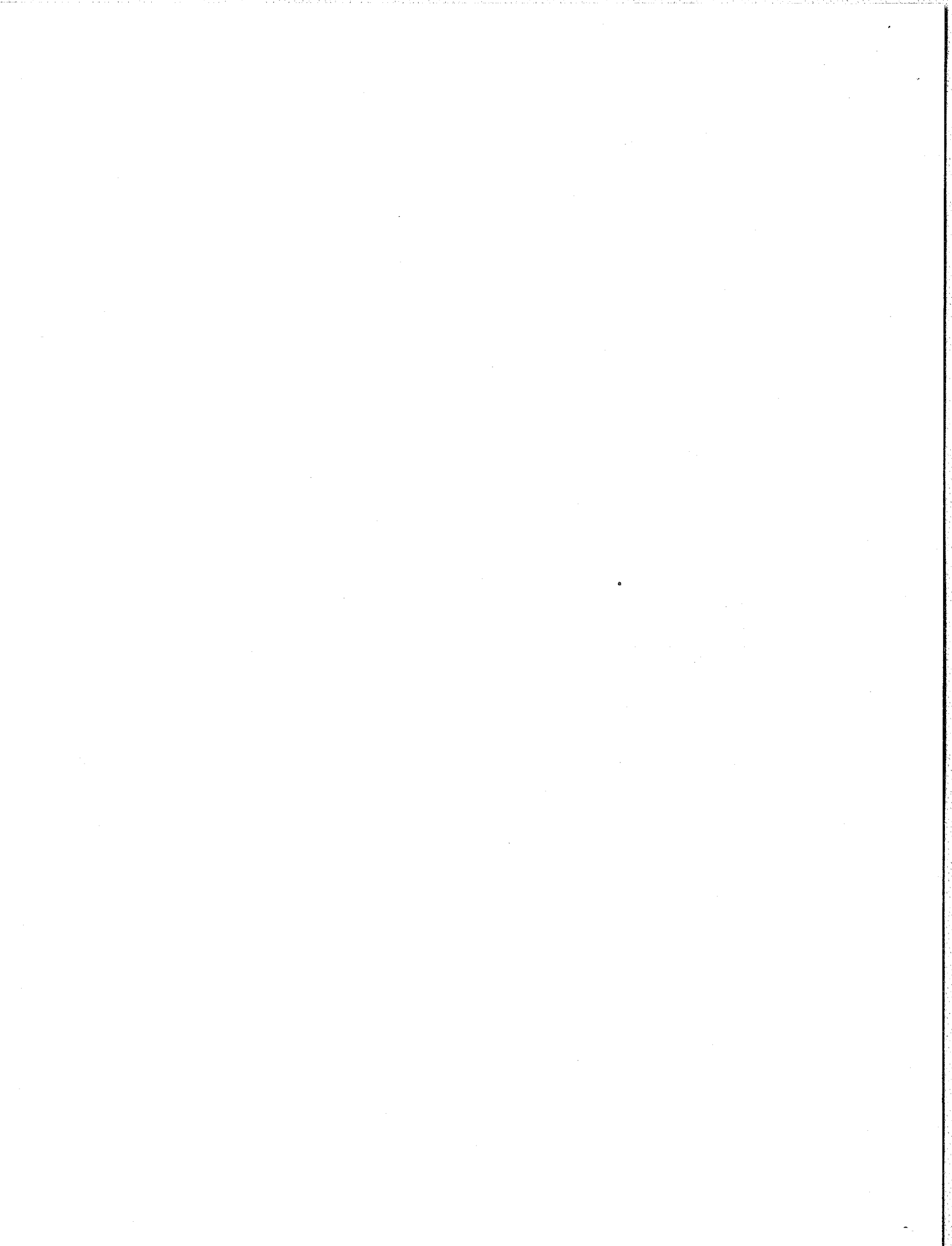
An instructional program that generally prepares individuals to apply scientific knowledge and methods in the planning related to and the economical use of facilities, land, water, machinery, chemicals, finance and labor in the production of plant and animal products. Activities include classroom instruction, agricultural mechanics instruction and laboratory experiences in and out of school including farms, agribusiness and other agriculturally related establishments.

Academic Courses (Approved by PDE)

- Environmental Science – is listed as one of the specific program of instruction for this CIP.
- Biology – Study of basic animal and plant structure and function along with basic cell functions and scientific research is needed as foundations for in-depth study in the field of agriculture.
- Chemistry – Agriculture deals with the composition, structure, and properties of inorganic and organic compounds in the process of raising and processing agricultural products.
- Economics / Accounting – CIP states it prepares students in the economical use of facilities, land, water, machinery, chemicals, finance and labor.
- Business Law- Study of history of law and the U.S. Court system. Specialized areas of business law directly pertaining to students and their role in society. The CIP states activities include agribusiness and other agriculturally related establishments.
- Drafting / CAD – Helps form a foundation in the design and construction of livestock and storage structures used in agriculture. The CIP states that it helps provide scientific knowledge and method in the planning of facilities and machinery in the production of plant and animal products.
- Geometry- Teaches skills in area and volume which is very important to the design and construction of livestock and storage structures used in agriculture.
- Trigonometry – Foundation is needed in the design and construction of livestock and storage structures used in agriculture.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Foreign Language – CIP states to prepare individuals...and methods in the planning related to the labor in the production of plant and animal products. A lot of the labor force used in agriculture (Dairy and vegetable / fruit production) is Spanish speaking individuals.
- Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.



01.0401 AGRICULTURAL AND FOOD PRODUCTS PROCESSING

(Formerly 01.0401 Agricultural and Food Products Processing Operations and Management)

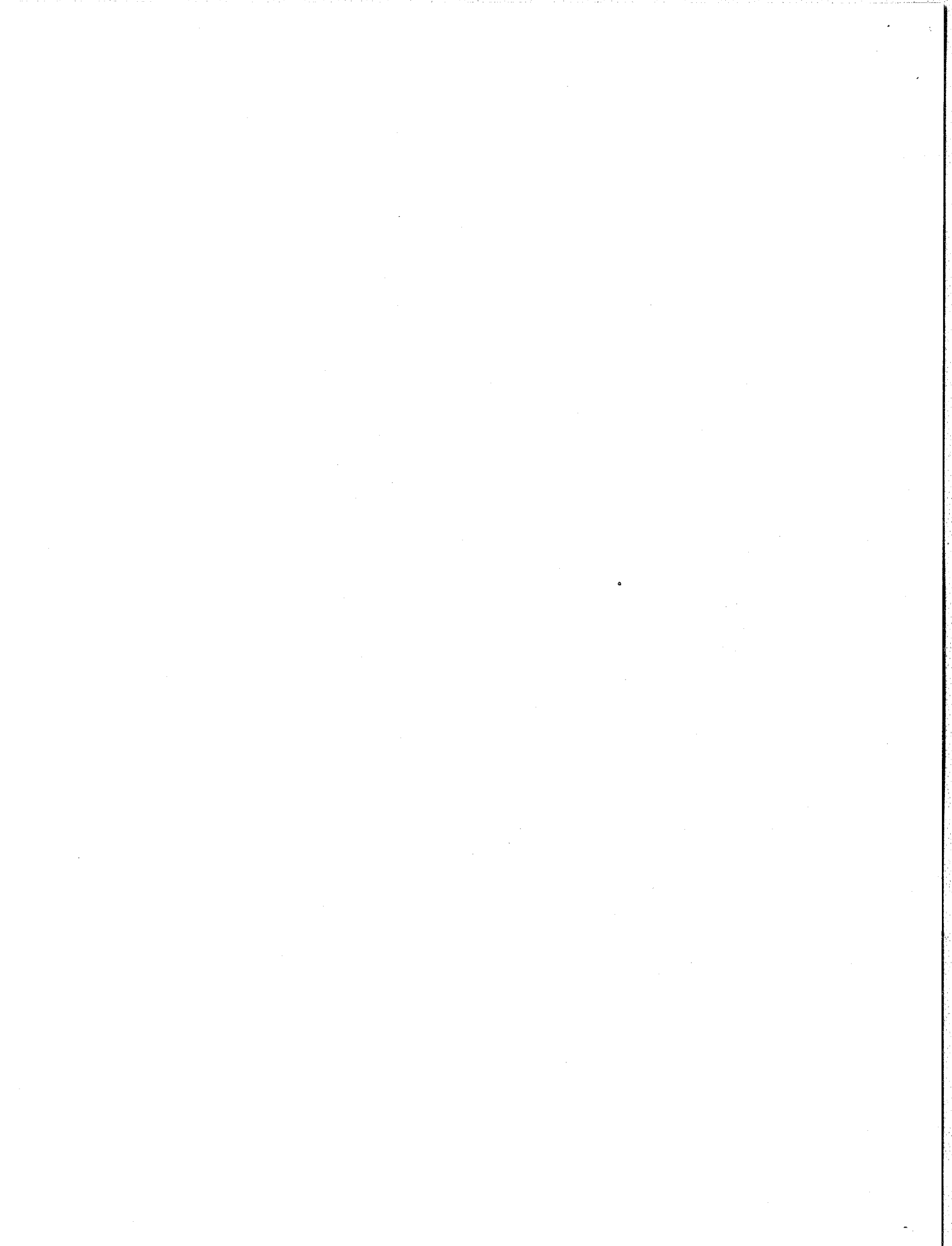
An instructional program having a combination of subject matter and learning experiences designed to prepare individuals to receive, process and store food and non-food products and to inspect those products preparatory to marketing. This program includes instruction in processes, scientific principles and management decisions concerned with agricultural production of agriculture-related processing and storage techniques. The groups of food products include: (1) meat, fish, poultry and eggs; (2) Dairy products; (3) fruits and vegetables; (4) cereal grains; and (5) other foods and beverages. The non-food products include cotton, tobacco and wool. Instruction may be provided in any or all groups of these products.

Academic Courses (Approved by PDE)

- Biology – Study of basic animal and plant structure and function along with basic cell functions and scientific research is needed as foundations for in-depth study in the field of agriculture.
- Chemistry – Agriculture deals with the composition, structure, and properties of inorganic and organic compounds in the process of raising and processing agricultural products.
- Family and Consumers Science – Understanding of food process techniques, along with storage and contamination of foods being processed.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Business Education – *The basic study of Business would help the student in the management decisions and with marketing which is stated in this CIP.*
- Other courses – *Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.*



**01.0601 APPLIED HORTICULTURE/HORTICULTURAL OPERATIONS,
GENERAL**

(Formerly 01.0601 Horticulture Services Operations and Management, General)

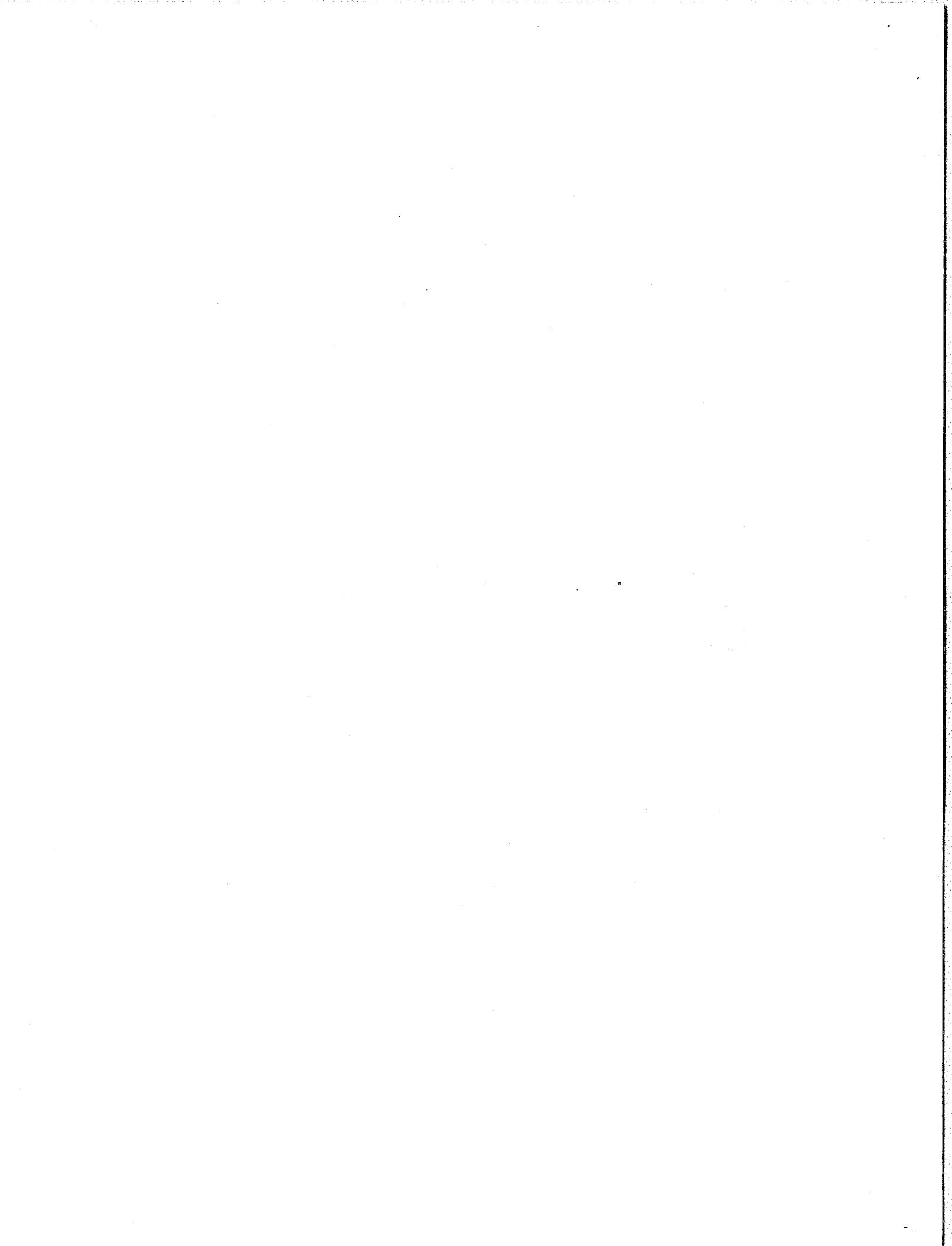
An instructional program having a combination of organized subject matter and practical experiences that generally prepares individuals to produce, process and market plants, shrubs and trees used principally for ornamental, recreational and aesthetic purposes and to establish, maintain and manage horticultural enterprises. Instruction emphasizes knowledge, understanding and application important to establishing, maintaining and managing horticultural enterprises such as arboriculture, floriculture, greenhouse operation and management, landscaping, nursery operation and management and turf management.

Academic Courses (Approved by PDE)

- Trigonometry – Foundation is needed in the design and construction of livestock and storage structures used in agriculture.
- Physics – The study of energy, heat, electricity, magnetism and atomic structure is needed for power, machinery, equipment and structure units.
- Biology – Study of basic animal and plant structure and function along with basic cell functions and scientific research is needed as foundations for in-depth study in the field of agriculture.
- Chemistry – Agriculture deals with the composition, structure, and properties of inorganic and organic compounds in the process of raising and processing agricultural products.
- Environmental Science – Is listed as one of the specific program of instruction for this CIP.
- Geometry- Teaches skills in area and volume which is very important to the design and construction of livestock and storage structures used in agriculture.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Foreign Language – CIP states to Prepare individuals to establish, maintains and manages horticultural enterprises. A lot of the labor force used in Horticultural enterprises is Spanish speaking individuals.
- Business Education – The basic study of Business would help the student in the Maintaining and managing horticultural enterprises which is stated in this CIP.
- Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.



01.5999 AGRICULTURE/NATURAL RESOURCES TECHNOLOGY

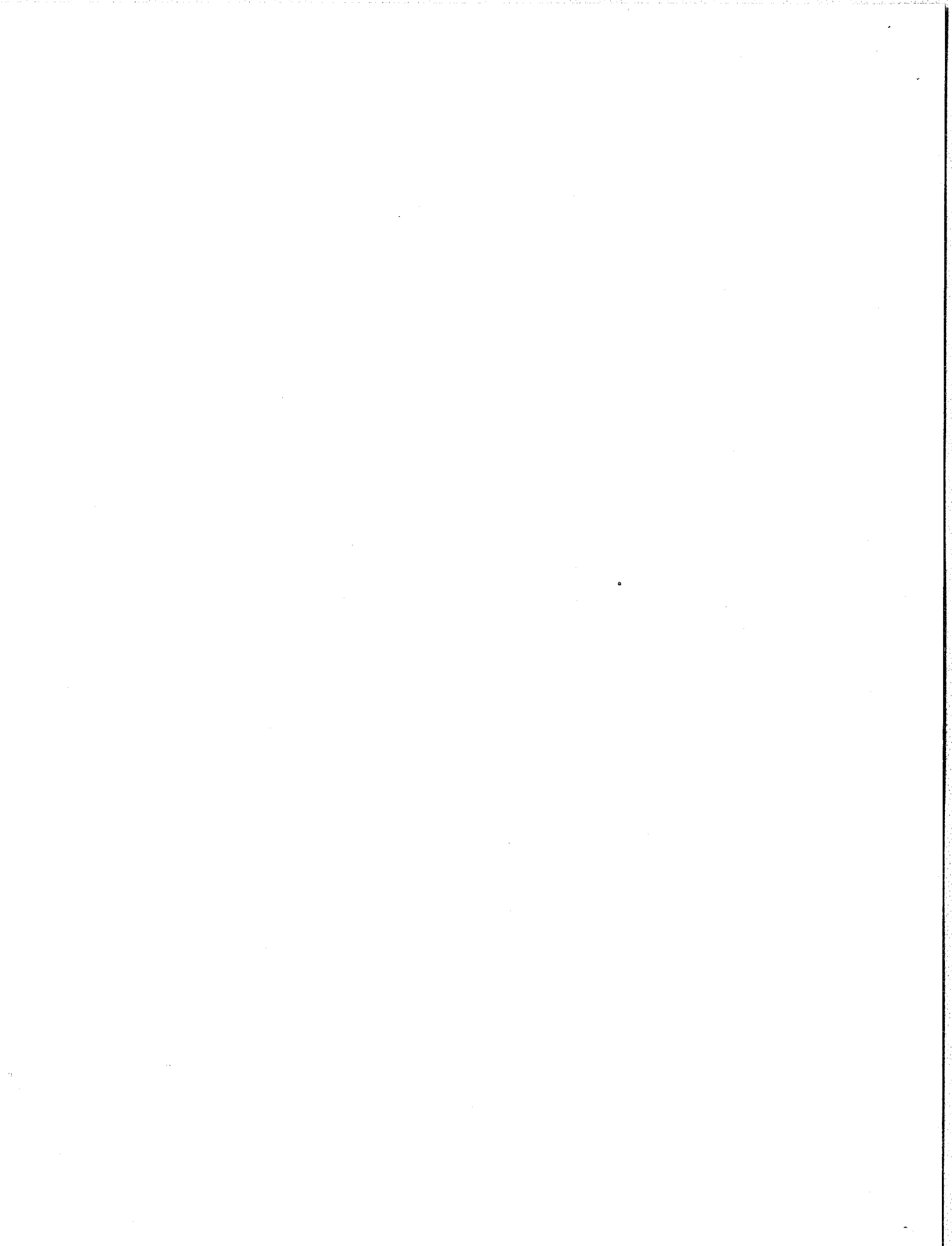
A cluster industry/occupational program that provides for a sequence of secondary technical core planned courses in Tech Prep. This program prepares individuals to apply knowledge and skills in the agricultural field. Instruction is provided in the basic skills in a variety of areas associated with agriculture such as agricultural business and production, forestry, agricultural mechanization, horticulture services, agriculture sciences, and/or conservation and renewable natural resources. Instruction includes but is not limited to computer science; plant, animal and soil sciences; principles of ecology and resource management; forestry; hydrology; principles of electronics; blueprint reading; and engine maintenance and repair.

Academic Courses (Approved by PDE)

- Physics – The study of energy, heat, electricity, magnetism and atomic structure is needed for power, machinery, equipment and structure units.
- Environmental Science – Is listed as one of the specific program of instruction for this CIP.
- Ecology – Interrelationship of organisms and their environments along with the consequences dealing with man's activities
- Biology - Study of basic animal and plant structure and function along with basic cell functions and scientific research is needed as foundations for in-depth study in the field of agriculture.
- Chemistry – Agriculture deals with the composition, structure and properties of inorganic and organic compounds in the process of raising and processing agricultural products. This CIP state instruction is not limited to plant, animal and soil sciences.
- Computer Science – Agriculture / Natural Resources Technology CIP states that instruction includes but is not limited to Computer Science as part of this program of study.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Drafting / CAD – The CIP states that Instruction includes but is not limited to principles of electronics; blueprint reading and engine maintenance and repair. All or some of which is studied in a drafting / CAD course.
- Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.



01.9999 AGRICULTURE, AGRICULTURE OPERATIONS AND RELATED SCIENCES, OTHER

(Formerly 01.9999 Agricultural Business / Production, Other)

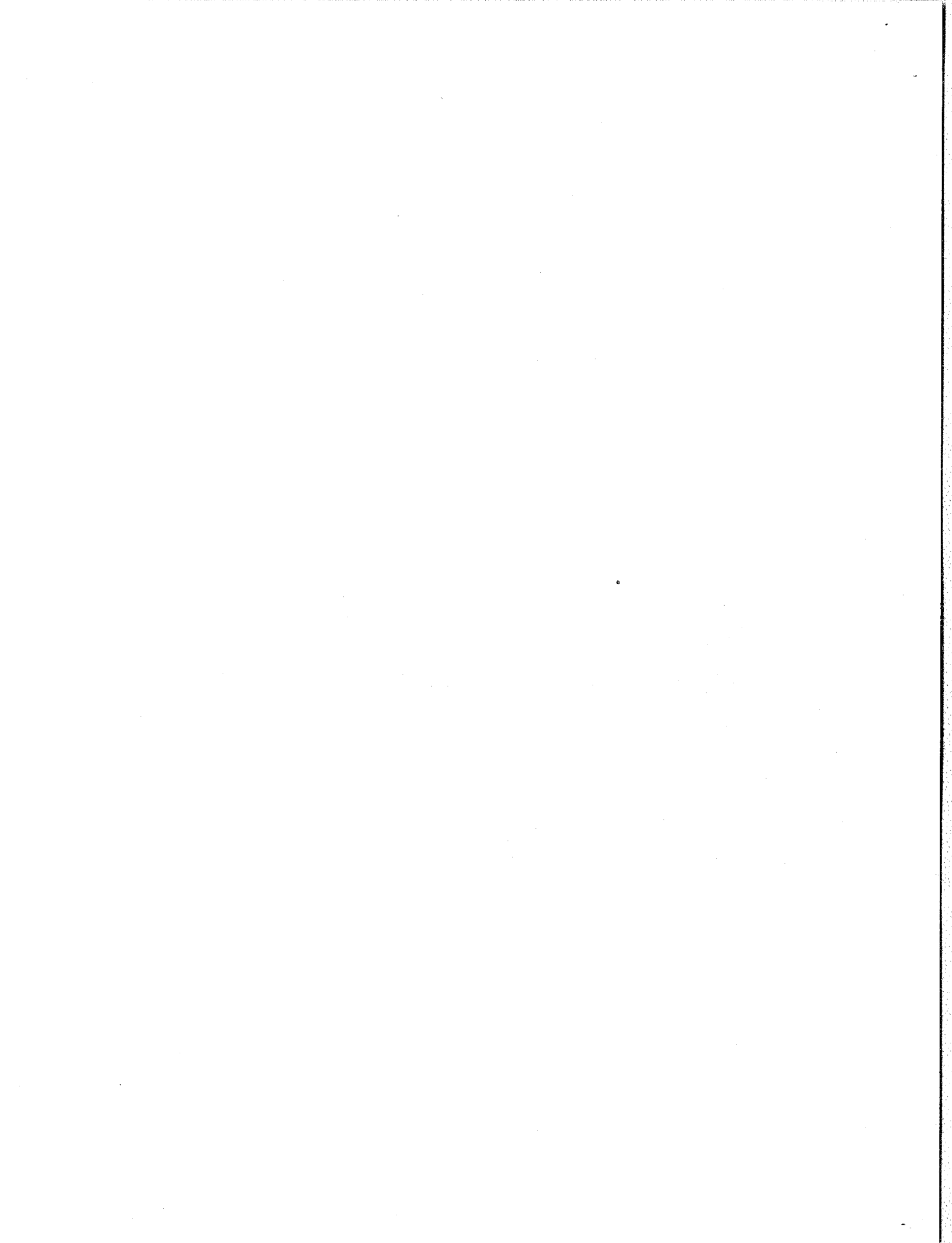
Any instructional program in agriculture, agricultural operations and related sciences not available in other CIP codes in the Agriculture, Food and Natural Resources cluster.

Academic Courses (Approved by PDE)

- Environmental Science – Is listed as one of the specific program of instruction for this CIP.
- Biology - Study of basic animal and plant structure and function along with basic cell functions and scientific research is needed as foundations for in-depth study in the field of agriculture.
- Chemistry – Agriculture deals with the composition, structure, and properties of inorganic and organic compounds in the process of raising and processing agricultural products.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.



03.0299 NATURAL RESOURCES MANAGEMENT AND POLICY, OTHER
(Formerly 03.0299 Natural Resources Management and Protective Services, Other)

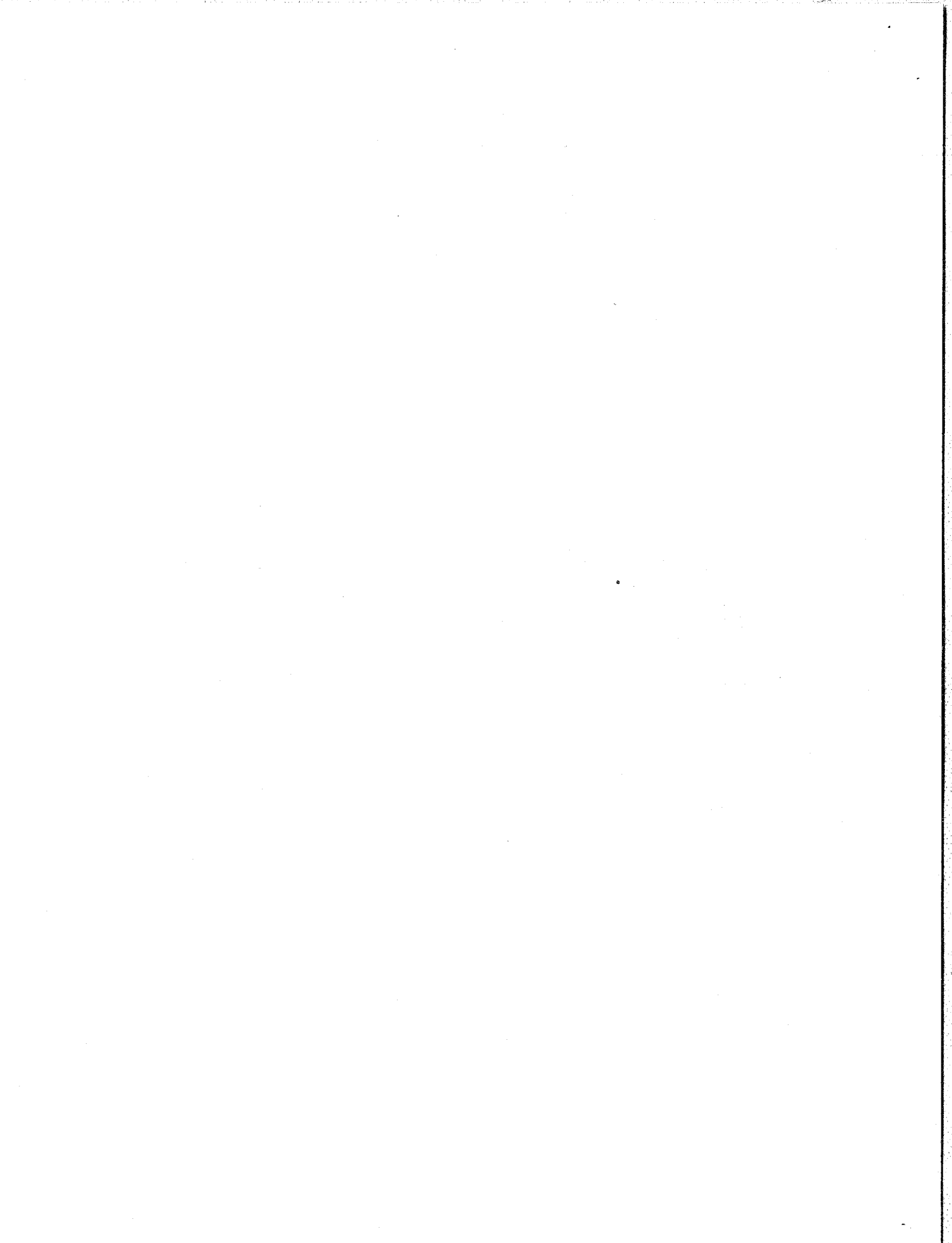
An instructional program having a combination of subject matter and planned learning experiences concerned with the principles and processes involved in the conservation, protection and/or improvement of natural resources found in the environment such as air, forests, soil, water, fish, plants and wildlife for economic and recreational purposes. Instruction also emphasizes such factors as the establishment, management and operation of forest lands for recreational purposes.

Academic Courses (Approved by PDE)

- Environmental Science – Is listed as one of the specific program of instruction for this CIP.
- Physics – The basic study of energy, heat, electricity, magnetism and atomic structure is needed for power, machinery, equipment and structure units.
- Ecology – Interrelationship of organisms and their environments along with the consequences dealing with man's activities.
- Business Law– The basic study of Law would help the student in the policy making which is stated in this CIP title.
- Chemistry – Agriculture deals with the composition, structure, and properties of inorganic and organic compounds in the process of raising and processing agricultural products. This CIP states that it deals with subject matter such as air, soil and water.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Business Education – The basic study of Business would help the student in the management and operation which is stated in this CIP.
- Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.



03.0511 FORESTRY TECHNOLOGY/TECHNICIAN

(Formerly 03.0401 Forest Harvesting and Production Technology/Technician)

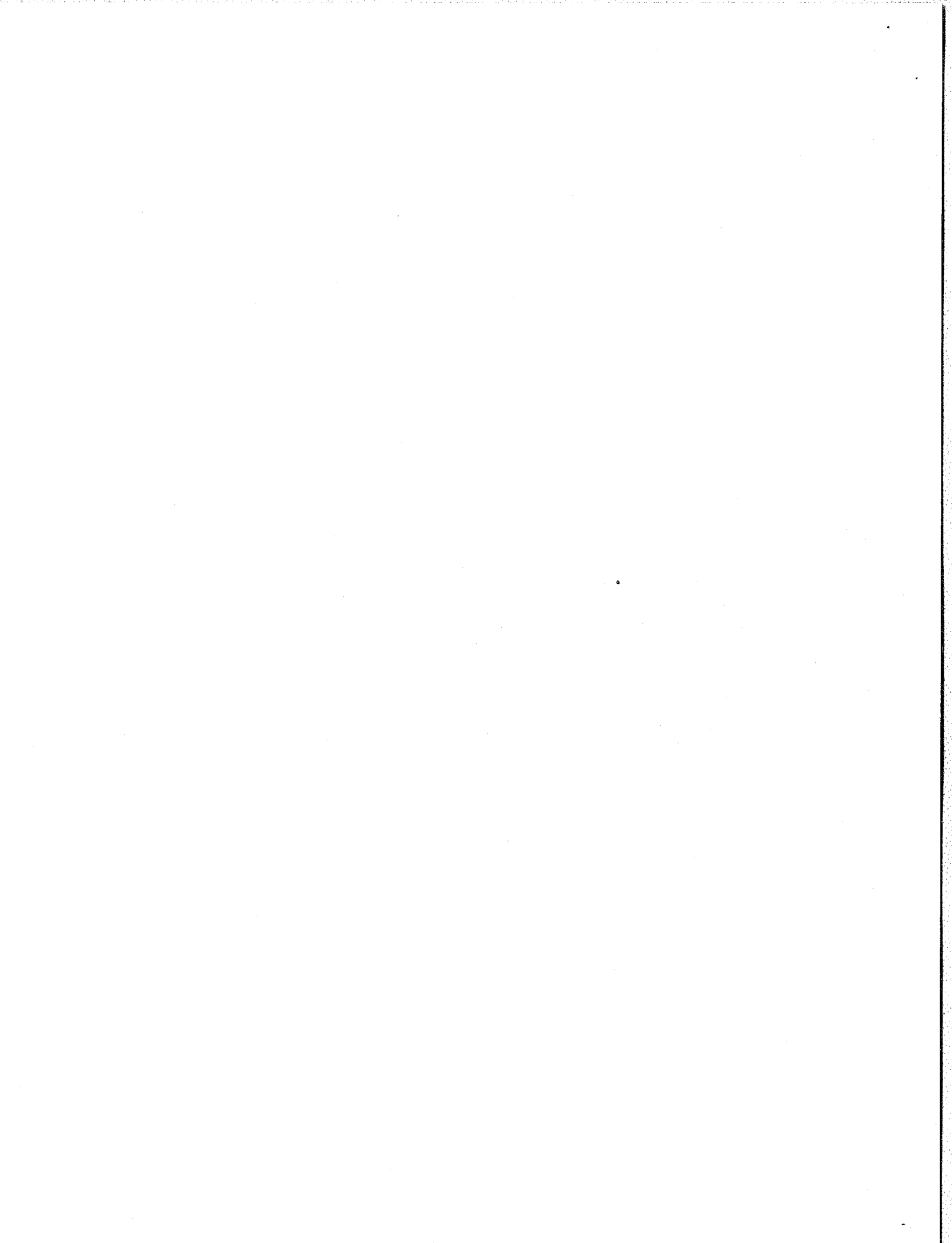
An instructional program having a combination of subject matter and experiences that prepares individuals to assist foresters and to produce, protect and manage timber and specialty forest crops; maintain, safely operate and repair related equipment and machinery; harvest and transplant trees as a crop; select, grade and market raw materials for converting into a variety of consumer goods; and utilize the forest for multiple purposes as game preserves and recreation.

Academic Courses (Approved by PDE)

- Environmental Science – Is listed as one of the specific program of instruction for this CIP.
- Biology - Study of basic animal and plant structure and function along with basic cell functions and scientific research is needed as foundations for in-depth study in the field of agriculture.
- Chemistry – Agriculture deals with the composition, structure, and properties of inorganic and organic compounds in the process of raising and processing agricultural products.
- Trigonometry – Foundation is needed in the design and layout of timber stands and mapping of area.
- Ecology – Interrelationship of organism and their environments along with the consequences dealing with man's activities.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Business Education – The basic study of Business would help the student in the grading and marketing of raw materials which is stated in this CIP.
- Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.



03.0599 FORESTRY, OTHER
(Formerly 03.0405 Logging/Timber Harvesting)

An instructional program provides classroom, laboratory and field experiences necessary to develop skills, knowledge and attitudes required to enter those occupations that process standing timber into lumber. Students learn to safely operate wood cutting equipment such as chain saws, shears, head saws, band saws, edgers, cutoff saws and chippers; operate wood handling and transporting equipment such as skidders, crawlers, loaders, forklifts and log trucks; operate debarking, processing and kiln drying equipment; maintain and repair logging equipment and machinery; and identify kinds of wood and make value judgments concerning their quantity and quality.

Academic Courses (Approved by PDE)

- Environmental Science – Is listed as one of the specific program of instruction for this CIP.
- Biology - Study of basic animal and plant structure and function along with basic cell functions and scientific research is needed as foundations for in-depth study in the field of agriculture.
- Chemistry – Agriculture deals with the composition, structure, and properties of inorganic and organic compounds in the process of raising and processing agricultural products.
- Trigonometry – Foundation is needed in the design and layout of timber stands and mapping of area.
- Ecology – Interrelationship of organism and their environments along with the consequences dealing with man's activities.

Additional Academic Courses that could be considered: (Only after the local entity shows a direct connection to the local agriculture curriculum and receives approval from the local occupational advisory committee)

- Business Education – CIP states that students learn to make value judgments concerning wood quantity and quality. These are the business aspects of this CIP.
- Other courses – Any other accredited (PDE) course which provides supporting and foundational knowledge to the CIP that has been approved through the CATS system.

