# **ODE EMIS MANUAL**

Section 4.7: Subject Codes



Version 1.0 September 9, 2012



### **REVISION HISTORY**

The revision history provides a means for the readers to easily navigate to the places in the manual where updates have occurred. Where there has been a significant change or update it will be highlighted. Minor changes, such as typos, formatting, and grammar are not highlighted.

Version	Date	Effective Date	Change #	Description
		(FY & Reporting Period)		

# **4.7 Subject Codes**

## **ACADEMIC CONTENT AREAS SECTION**

### Fine Arts Section

Table 1. Dance Codes (0803xx)

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Introduction to Dance	FAR	Arts
	A study of the skills and processes necessary to understand and ex-		
080312	perience dance as an art form and as a means of meaningful com-		
080312	munication. Emphasis is placed on kinesthetic intelligence and the		
	fundamentals of dance and choreography. Study also emphasizes		
	the role of dance throughout history and in different cultures.		
	Comprehensive Dance	FAR	Arts
	A comprehensive study of the knowledge and processes of creating,		
000215	performing, responding to, and representing ideas through the art		
080315	form of dance. Multiculturalism, art history, art criticism and aes-		
	thetics are incorporated into course content and dance experiences		
	for individual and group learning.		

Table 2. Drama/Theatre Arts Codes (050xxx)

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Drama/Theatre in grades K-8	N/A	Arts
	The study of dramatic elements and theatrical techniques, particu-		
050337	larly in an improvisational, non-exhibitional, process-centered man-		
	ner, designed to develop imagination, communication, and		
	expressive skills.		
	Theatre Arts	FAR	Arts
	Subject matter and experiences are concerned with a wide range of		
050600	studies and activities including playwriting, dramatic literature, sce-		
030000	ne design, technical theatre, acting, directing, and the supporting of		
	arts and crafts of the theatre and of selected aspects of video, radio,		
	television and film.		

Table 3. Music Codes (12xxxx)

	Description	Suggested	<b>Core Subject</b>
Code		Subject Area for Credit	Area (for HQT)
122000	Music (K-8) Organized study of the elements and styles of music and the historical, cultural and societal context of music designed for all pupils in grades K-8.	N/A	Arts
120000	General Music Organized subject matter and musical experiences consisting of an extensive and varied study of music designed for all pupils in grades K-12.  (This subject code will be deleted in FY13; subject code 120001 is the replacement.)	FAR	Arts
120001	General Music  Organized subject matter and musical experiences consisting of an extensive and varied study of music designed for all pupils in grades K-12.	FAR	Arts
120300	Music Theory The study of the principles of music, including rudiments, harmony, counterpoint, form and analysis, orchestration and skills such as sight singing, ear training, conducting and composing.	FAR	Arts
120400	Vocal/Choral Music Learning experiences designed for the study of vocal / choral repertoire and the development of vocal / choral skills through solo and ensemble performance.	FAR	Arts
120500	Instrumental Music Learning experiences designed for the study of instrumental repertoire and the development of instrumental skills through solo and ensemble performance.	FAR	Arts
120800	Music Appreciation Organized subject matter and learning experiences designed to further pupils' knowledge, comprehension, and appreciation of various types and styles of music.	FAR	Arts
129999	Other Music Course A music course that is given for high school credit toward graduation that is different in scope from any of the other SUBJECT CODES described above and which addresses important content (knowledge and skills) in the study of music.	FAR	Arts

Table 4. Visual Art Codes (02xxxx)

Subject	Description	Suggested	<b>Core Subject</b>
Code	•	Subject Area for	Area (for HQT)
		Credit	
020012	Visual Art (K-12) A study of the knowledge, skills and processes for observing, creating, responding and communicating in ways that are unique to visual art. Art production and the construction of meaning in visual artworks are complimentary learning activities. Course content may include meaningful connections between visual art and other disciplines to enable students to understand art in a broader context.	FAR	Arts
020100	Art Appreciation  The study of works of visual art from various historical, cultural and social contexts. Instruction addresses multiple strategies for inquiry to enable students to develop and present their own views and responses to specific artworks and to discuss the viewpoints of others.	FAR	Arts
020101	Art History This course examines the reciprocal impact between visual art and historical, cultural, social and political contexts. Key artworks are studied chronologically and thematically with emphasis on subject matter, ideas, and the formal, technical and expressive aspects of the works.	FAR	Arts
020210	<b>Design</b> This course emphasizes study of the elements and principles of art and design. Students explore, organize, and use the elements and principles to create two- and three-dimensional original work in various forms and media.	FAR	Arts
020240	Crafts Students acquire utilitarian skills including weaving, jewelry-making, fabric crafting, basketry, metalsmithing, leather-shaping, and wood-forming. Objects by professional craftspersons are studied for their formal, expressive, and technical qualities.	FAR	Arts
020242	Ceramics Original objects (primary pottery and sculpture) are created with clay using hand building, casting, wheel forming, and glazing techniques. Objects created by professional ceramists are examined for their expressive, formal, and technical qualities.	FAR	Arts
020250	Drawing and Painting Pencil, pen and ink, chalk, charcoal, acrylics, oils, and watercolors are explored to create original personal images. Drawings and paintings by culturally and historically representative artists are examined for their formal, expressive, and technical qualities.	FAR	Arts
020270	Photography and Film Making Still and motion picture camera procedures are investigated along with darkroom developing and printing techniques. The expressive, formal, and technical qualities of professional work are studied.	FAR	Arts

•	Description	Suggested	Core Subject
Code		Subject Area for	Area (for
		Area for Credit	HQT)
	Printmaking	FAR	Arts
020200	Linoleum block printing, woodblock printing, silk-screen printing,		
020280	and etching are studied as processes for expressing ideas. Profes-		
	sional printmakers' products are also examined.		
	Sculpture	FAR	Arts
	Various media such as clay, metal, wood, stone, and wire and vari-		
020290	ous processes such as carving, casting, soldering, and modeling are		
	investigated as means for creating three-dimensional artistic forms.		
	Professional sculptors' works are studied.		
	Advanced Visual Art	FAR	Arts
029902	An advanced course of organized subject matter and experiences in		
02//02	art. Works from different cultures and time periods as well as those		
	created by the students are studied.		
	Graphic Arts/Unified Arts	FAR	Arts
020320	Computer design is explored to develop understanding of tech-		
	niques, processes and possibilities of electronic media to under-		
	stand, create and appreciate visual art.	ELD	
020100	Studio Art – Drawing	FAR	Arts
029100	8		
	have previous training in art.	ELD	<b>.</b>
020110	Studio Art – 2D Design	FAR	Arts
029110			
	motivated and have previous training in art.	EAD	A
020120	Studio Art – 3D Design	FAR	Arts
029120	A course in three-dimensional art design for students who are high-		
	ly motivated and have previous training in art.  Other Visual Art Course	FAR	Amto
	A course that is given for high school credit toward graduation, but	ГAK	Arts
029999	that is different in scope from any of the other SUBJECT CODES		
047777	described above and which addresses important content (knowledge		
	and skills) in the study of visual art.		
	and skins) in the study of visual aft.		

## **Business Education Section**

Table 5. Business Education (Non-Career Technical) Codes (03xxxx)

	Business Education (Non-Career Technical) Codes (03xxxx)			
•	Description	Suggested	Core Subject	
Code		Subject	Area (for	
		Area for	HQT)	
	A	Credit		
	Accounting	BUS		
	Instruction focuses on the management of a company's financial			
020100	resources including the accounting cycle, financial statements, and			
030100	interpretation and use of financial data. Content should be based on			
	National Business Education Association (NBEA) content standards. Only grade 9-12 courses based on standards from the 9-12			
	grade band of NBEA Standards are eligible for high school credit.			
	Business Mathematics	DIIC MTH	Mathematics	
	Students develop the skills necessary to solve mathematical prob-	BUS, MITH	Mainematics	
	lems, analyze and interpret data, and apply sound decision-making			
030500	skills in business. Content should be based on National Business			
030300	Education Association (NBEA) content standards. Only grade 9-12			
	courses based on standards from the 9-12 grade band of NBEA			
	Standards are eligible for high school credit.			
	Business Communications	BUS, ENG	English	
	Students master the oral and written communication skills essential	, ,	8	
	to interacting effectively with people in the workplace and society.			
030600	Content should be based on National Business Education Associa-			
	tion (NBEA) content standards. Only grade 9-12 courses based on			
	standards from the 9-12 grade band of NBEA Standards are eligible			
	for high school credit.			
	Business Law	BUS		
	Addresses statutes and regulations affecting businesses, families			
030900	and individuals in their related roles. Content should be based on			
030700	National Business Education Association (NBEA) content stand-			
	ards. Only grade 9-12 courses based on standards from the 9-12			
	grade band of NBEA Standards are eligible for high school credit.	DIIG		
	Personal Finance	BUS		
	Students develop and utilize rational decision-making processes to			
021500	form personal financial decisions in their roles as citizens, workers,			
031500				
	ucation Association (NBEA) content standards. Only grade 9-12 courses based on standards from the 9-12 grade band of NBEA			
	Standards are eligible for high school credit.			
	Computer Programming and Software Development	BUS, TEC		
	Students design, develop, test and implement computer programs	DOD, TEC		
	using structural/procedural, objective oriented, data description,			
	scripting/control, and/or mark-up languages. Content should be			
031700	based on National Business Education Association (NBEA) content			
	standards. Only grade 9-12 courses based on standards from the 9-			
	12 grade band of NBEA Standards are eligible for high school cred-			
	it.			

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Business Economics	BUS, SOC	Economics
	Develops student's abilities to make wise economic decisions relat-		
	ed to their personal financial affairs, the successful operation of		
031800	organizations, and the economic activities of the country. Content		
031000	should be based on National Business Education Association		
	(NBEA) content standards. Only grade 9-12 courses based on		
	standards from the 9-12 grade band of NBEA Standards are eligible		
	for high school credit.		
	Introduction to Business/General Business	BUS	
	The study of domestic and international business operations includ-		
	ing start-up, financing, management, and standard practices. Con-		
032300	tent should be based on National Business Education Association		
	(NBEA) content standards. Only grade 9-12 courses based on		
	standards from the 9-12 grade band of NBEA Standards are eligible		
	for high school credit.	DIIG	
	Office Procedures	BUS	
	Instruction in office practices and procedures, office technology,		
022000	office environment, records management, human relations, and tel-		
032800	ephone techniques. Content should be based on National Business		
	Education Association (NBEA) content standards. Only grade 9-12		
	courses based on standards from the 9-12 grade band of NBEA		
	Standards are eligible for high school credit.	DIIC	
033450	Business (Other) Abbreviated written and/or electronic communications.	BUS	
		BUS, TEC	
	Computer Application Students identify, evaluate, select, install, use, upgrade, and cus-	BUS, IEC	
	tomize application software. Computer applications include word		
	processing, database, spreadsheet, presentation, and calendar-		
036000	ing/scheduling software. Content should be based on National		
	Business Education Association (NBEA) content standards. Only		
	grade 9-12 courses based on standards from the 9-12 grade band of		
	NBEA Standards are eligible for high school credit.		
	11DL/1 Standards are engine for high school credit.		

# English Language Arts Section

Table 6. English Language Arts Codes (05xxxx)

	Description	Suggested	Core Subject
Code	Description	Subject	Area (for
Couc		Area for	HQT)
		Credit	nq1)
	Reading K-3	N/A	Reading
	This course should address the content in the K-3 portion of Ohio's	1 1/1 1	Troubling .
0.70100	academic content standards for reading. Reading instruction should		
050102	include the reading of a variety of text (e.g., informational and liter-		
	ary), application of comprehension strategies and the building and		
	extending of vocabulary.		
	Reading 4-6	N/A	Reading
	This course should address the content in the 4-6 portion of Ohio's		
050104	academic content standards for reading. Reading instruction should		
050104	include the reading of a variety of text (e.g., informational and liter-		
	ary), applications of the comprehension strategies and the building		
	and extending of vocabulary.		
	Reading 7-8	N/A	Reading
	This course should address the content in the 7-8 portion of Ohio's		
050106	academic content standards for reading. Reading instruction should		
030100	include the reading of a variety of text (e.g., informational and liter-		
	ary), applications of the comprehension strategies and the building		
	and extending of vocabulary.		
	Integrated English Language Arts K-3	N/A	Language
	Instruction should be based on the benchmarks and indicators for		Arts
050150	grades K-3. Students should read grade appropriate text and use a		
050152	variety of comprehension strategies for different purposes, utilize		
	the writing process, write for different purposes and different audi-		
	ences, research self-selected or assigned task and use effective		
	communication techniques.  Integrated English Language Arts 4-6	N/A	Longuego
	Instruction should be based on the benchmarks and indicators for	IN/A	Language Arts
	grades 4-6. Students should read grade appropriate text and use a		Zitis
050154	variety of comprehension strategies for different purposes, utilize		
030134	the writing process, write for different purposes and different audi-		
	ences, research self-selected or assigned task and use effective		
	communication techniques.		
	Integrated English Language Arts 7-8	N/A	Language
	Instruction should be based on the benchmarks and indicators for		Arts
	grades 7-8. Students should read grade appropriate text and use a		
050156	variety of comprehension strategies for different purposes, utilize		
	the writing process, write for different purposes and different audi-		
	ences, research self-selected or assigned task and use effective		
	communication techniques.		

Subject	Description	Suggested	<b>Core Subject</b>
Code	_	Subject	Area (for
		Area for	HQT)
		Credit	T
	Integrated English Language Arts I	ENG	Language Arts
	Integrated Language Arts Instruction addresses the content and skills of Ohio's Academic Content Standards for English Language		Arts
	Arts. Instruction should be based on the benchmarks for grades 8-10		
050160			
030100	ty of texts for different purposes, utilize the writing process, write		
	for different purposes and different audiences, research self-selected		
	or assigned topics use an appropriate form to communicate their		
	findings and continue to use effective communication techniques.		
	Integrated English Language Arts II	ENG	Language
	Integrated Language Arts Instruction addresses the content and	21,0	Arts
	skills of Ohio's Academic Content Standards for English Language		
	Arts. Instruction should be based on the benchmarks for grades 8-10		
050170			
	of texts for different purposes, utilize the writing process, write for		
	different purposes and different audiences, research self-selected or		
	assigned topics use an appropriate form to communicate their find-		
	ings and continue to use effective communication techniques.		
	Integrated English Language Arts III	ENG	Language
	Integrated Language Arts Instruction addresses the content and		Arts
	skills of Ohio's Academic Content Standards for English Language		
	Arts. Instruction should be based on the benchmarks for grades 11-		
050180	12 and grade level indicators for grade <i>eleven</i> . Students will read a		
	variety of texts for different purposes, utilize the writing process,		
	write for different purposes and different audiences, research self-		
	selected or assigned topics, use an appropriate form to communicate		
	their findings and continue to use effective communication techniques.		
	Integrated English Language Arts IV	ENG	Language
	Integrated Language Arts Instruction addresses the content and	LING	Arts
	skills of Ohio's Academic Content Standards for English Language		71113
	Arts. Instruction should be based on the benchmarks for grades 11-		
0.70100	12 and grade level indicators for grade <i>twelve</i> . Students will read a		
050190	variety of texts for different purposes, utilize the writing process,		
	write for different purposes and different audiences, research self-		
	selected or assigned topics use an appropriate form to communicate		
	their findings and continue to use effective communication tech-		
	niques.		
	Intervention English	ENG	English
050014	This course is designed for remedial study with emphasis on the		
33301-4	English language arts Academic Content Standards and the Ohio		
	Graduation Test.		

Subject Code	Description	Suggested Subject	Core Subject Area (for
		Area for Credit	HQT)
050119	Intervention Reading This course is designed to provide special assistance in the development of reading skills and strategies for students who cannot construct meaning from what they read. Instruction addresses content from the reading benchmarks of the English language arts Academic Content Standards.	ENG	Reading
051905	English as a Second Language (ESL) Designed for individuals whose primary language is not English. The study of the English language and culture leading to the ability to function in everyday situations as well as in academic settings, with a special emphasis on Ohio's English Language Arts Academic Content Standards.	ENG	English
050220	Grammar and Usage This course emphasizes the editing phase of the writing process, providing students a variety of strategies for refining and editing their own writing. Instruction will be centered around the writing benchmarks of the English language arts Academic Content Standards.	ENG	English
050300	Literature This course is designed to provide instruction in the study of print materials, which have noteworthy content and excellence of style. Students apply the reading process to the various genres of literature. Instruction addresses content from the reading benchmarks of the English language arts Academic Content Standards.	ENG	English
050400	Composition This course will provide instruction in writing. Students will develop their writing with a focus on expository and persuasive techniques. Journals will be kept and portfolios will be maintained throughout the class. Instruction will be centered around the writing benchmarks of the English language arts Academic Content Standards.	ENG	English
050403	Journalism This course includes the study and practice of writing, editing and publishing newspapers and periodicals. Instruction centers on the writing and research standards in the English Language Arts Academic Content Standards.	ENG	English
050500	Speech This course covers subject matter and experiences in speech. A wide spectrum of studies and activities from the scientific (voice science) through the humanistic (rhetoric) will be taught. Behavioral sciences (group dynamics) as well as the artistic (oral interpretation of literature) will also be taught.	ENG	English

•	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for Credit	HQT)
	<b>Applied Communications</b>	ENG	English
	This course gives students practice in communication skills of read-		
	ing, writing, listening and speaking in their chosen vocations. Stu-		
050545			
	information and persuade or entertain audiences. Instruction centers		
	on the Communication: Oral and Visual Standard in the English		
	Language Arts Academic Content Standards.		
	English Language & Composition	ENG	English
	This course is centered around the reading and writing benchmarks		
	of the English language arts Academic Content Standards. It is de-		
059920	signed to develop the writing and language skills students need for		
00//20	success in their secondary school program, in their daily lives, and		
	in a global society. Students will compose oral, written, and media		
	text consisting of organized subject matter and experiences empha-		
	sized in English.	FNG	P 11 1
	English Literature & Composition	ENG	English
	This course is centered around the reading and writing benchmarks		
050020	of the English language arts Academic Content Standards. It is de-		
059930	signed to develop the reading and writing skills students need for		
	success in their secondary school program, in their daily lives, and		
	in a global society. Students will analyze and interpret a variety of		
	genres of literature as well as informational and graphic texts.	ENG	English
	Other English/Language Arts Course  A topical course that can cover the different aspects of English Language.	ENG	English
059999	A topical course that can cover the different aspects of English Language arts. Instruction will be centered around the benchmarks of		
	guage arts. Instruction will be centered around the benchmarks of the English language arts Content Standards.		
	the English language arts Content Standards.		

## Family & Consumer Sciences Section

The courses below earn Home Economics Credit.

Table 7. Family & Consumer Sciences (Non-Career Technical) Codes (23xxxx)

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Family & Consumer Sciences	HEC	_
	Content from a combination of the various areas of family and con-		
230000	sumer sciences.		
230000			
	(This subject code will be deleted in FY13; subject code 230001 is		
	the replacement.)		
	Family & Consumer Sciences	HEC	_
230001	Content from a combination of the various areas of family and con-		
	sumer sciences.		
230100	Clothing and Textiles	HEC	
230100	Nature, acquisition, and the use of clothing and textiles.		

Subject	Description	<b>Suggested</b>	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
230140	Foods and Nutrition	HEC	
230140	Food and its role in personal and family living.		
230200	Child Development and Parenting	HEC	
230200	The developing child and the care and guidance of children.		
	Consumer Education	HEC	_
230300	Consumer education as it relates to the management of homes and		
	families.		
230500	Family Living	HEC	_
230300	Nurturing human development through the life span.		
230600	Housing and Home Furnishings	HEC	_
230000	Choosing, equipping and furnishing living environments.		

# Foreign Language Section

**Table 8. Foreign Language Codes (06xxxx)** 

Subject Code	Description	Suggested Subject Area for Credit	Core Subject Area (for HQT)
060101	Arabic The study of the language and culture of the Arabic world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060102	Chinese The study of the language and culture of the Chinese-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060103	Greek The study of the language, literature, and culture of the Ancient Greeks and their influence on modern civilization.	FLR	Foreign Language
060104	Hebrew The study of the language and culture of the Hebrew-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060107	Latin The study of the language, literature, and culture of Ancient Rome and its influence on modern civilization.	FLR	Foreign Language
060218	Russian The study of the language and culture of the Russian-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060221	Swahili The study of the language and culture of the Swahili-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language

Subject Code	Description	Suggested Subject Area for Credit	Core Subject Area (for HQT)
060227	Czech The study of the language and culture of the Czech-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060230	French The study of the language and culture of the French-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060235	German The study of the language and culture of the German-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060245	Italian The study of the language and culture of the Italian-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060250	Japanese The study of the language and culture of the Japanese-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060255	<b>Polish</b> The study of the language and culture of the Polish-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060265	Spanish The study of the language and culture of the Spanish-speaking world leading to the ability to communicate in a range of situations and glean meaning from a variety of texts.	FLR	Foreign Language
060900	Foreign Language (Exploratory) A language survey course during which students are exposed to several languages.	FLR	Foreign Language
060207	<b>TESOL–English as a Second Language (ESL)</b> The study of the language and culture of the English-speaking world leading to the ability to function in academic and everyday situations. Designed for individuals whose primary language is not English. This course focuses on English as a foreign language.	FLR	Foreign Language
061050	American Sign Language (ASL) The study of a visual-gestural language used by deaf people in the United States and part of Canada. ASL has its own culture, grammar, and vocabulary; is produced by using the hands, face, and body; and is not derived from any spoken language.	FLR	Foreign Language
069922	Latin: Vergil Students read, translate, analyze, and interpret the works of Vergil.	FLR	Foreign Language
069915	French Literature A formal study of a representative body of literary texts in French for students who have advanced language skills.	FLR	Foreign Language

Subject Code	Description	Suggested Subject	Core Subject Area (for
Code		Area for	HQT)
		Credit	11(1)
	Spanish Literature	FLR	Foreign
069935	A formal study of a representative body of literary texts in Spanish		Language
	for students who have advanced language skills		
069925	Latin Literature	FLR	Foreign
00//20	Students read, translate, analyze, and interpret Latin works.		Language
0.600.51	Early Language Learning Arabic	N/A	Foreign
069951	The study of a language and culture other than English in		Language
	elementary school-Arabic.	N/A	Foreign
069952	Early Language Learning Chinese The study of a language and culture other than English in	IN/A	Language
009932	elementary school-Chinese.		Language
	Early Language Learning Japanese	N/A	Foreign
069953	The study of a language and culture other than English in	14/11	Language
00//00	elementary school-Japanese.		Zungunge
	Early Language Learning Italian	N/A	Foreign
069954	The study of a language and culture other than English in		Language
	elementary school-Italian.		
	Early Language Learning German	N/A	Foreign
069955	The study of a language and culture other than English in		Language
	elementary school-German.		
0.0005.0	Early Language Learning Hebrew	N/A	Foreign
069956	The study of a language and culture other than English in		Language
	elementary school-Hebrew.	N/A	Espeion
069957	Early Language Learning French The study of a language and culture other than English in	N/A	Foreign Language
009937	elementary school-French.		Language
	Early Language Learning Spanish	N/A	Foreign
069958	The study of a language and culture other than English in	14/11	Language
	elementary school-Spanish.		88
	Early Language Learning Swahili	N/A	Foreign
069959	The study of a language and culture other than English in		Language
	elementary school-Swahili.		
	Early Language Learning Russian	N/A	Foreign
069960	The study of a language and culture other than English in		Language
	elementary school-Russian.		
069961	Early Language Learning Latin	N/A	Foreign
	The study of a language and culture other than English in		Language
	elementary school-Latin.	N/A	Foreign
069962	Early Language Learning Greek The study of a language and culture other than English in	1 <b>N</b> / <b>A</b>	Foreign Language
009902	elementary school-Greek.		Language
	Early Language Learning American Sign Language	N/A	Foreign
069963	The study of a language and culture other than English in		Language
201700	elementary school-American Sign Language.		

## Health and Physical Education Section

**Table 9. Health Education Codes (26xxxx)** 

	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	<u> </u>
	Health Education	HTH	—
260101	Educational activities that promote understanding, attitudes, and		
200101	practices consistent with individual, family, and community health needs.		
	<b>Substance Abuse Prevention</b>	HTH	_
	Subject matter and learning experiences which address drug, alco-		
260150			
	discipline, and community resources available to the pupil and to		
	the family.		
	Safety/First Aid/CPR	HTH	_
	Subject matter and learning experiences concerned with developing		
260200	students' awareness and understanding of hazards of everyday liv-		
	ing, and the knowledge, habits, attitudes, and skills which will ena-		
	ble them to function at an optimum level in the prevention and care of injury situations.		
	Sports Medicine	HTH	
	Educational activities concerned with the effects of sports and exer-	11111	
260410	cise on health and fitness and with the prevention and treatment of		
	athletic injuries.		
	Other Health	HTH	_
269999	A course that is given for High School credits to be applied toward		
209999	the diploma, but that is different in scope from any of the other		
	SUBJECT CODES described above.		

Table 10. Physical Education Codes (08xxxx)

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Physical Education	PHE	_
	A comprehensive subject area which incorporates fundamental mo-		
080300	tor skills, body control and balance, physical fitness, leisure sports		
	and games skills, cognitive skills, as well as stress management		
	skills.		
	Lifetime Sports	PHE	_
080405	Activities taught throughout the school life with emphasis on learn-		
	ing experiences that can be turned into healthful lifetime skills.		

	Adapted Physical Education	PHE	_
	Adapted Physical Education is specially designed instruction in		
080505	physical education. According to federal law, physical education		
080303	means the development of (a) physical and motor fitness; (b) fun-		
	damental motor skills and patterns; and (c) skills in aquatics, dance,		
	and individual and group games and sports.		
	Outdoor Physical Education	PHE	_
	A variety of outdoor leisure and sports activities, such as, fishing,		
080900	archery, nature study, boating, backpacking, and similar pursuits		
	that enhance students physical health and their understanding of the		
	natural world.		
	Other Physical Education Course	PHE	_
080999	Other Physical Education course for which high school credit can be		
	earned that is different in scope and content from any of the other		
	courses described above.		

### **Mathematics Section**

Table 11. Elementary and Middle School Level Mathematics Codes (11xxxx)

•	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	
The follo	owing four courses do not earn high school mathematics credit.		
	Mathematics K-3	N/A	Mathematics
	Instruction provided by a teacher to multiple groups of students ra-		
110003	ther than in a self-contained classroom setting. Includes content in		
	the preK-3 portion of Ohio's academic content standards for math-		
	ematics.		
	Mathematics 4-6	N/A	Mathematics
110150	Includes content in the 4-6 portion of Ohio's academic content		
	standards for mathematics.		
	Mathematics 7-8	N/A	Mathematics
110175	Includes content in the 7-8 portion of Ohio's academic content		
	standards for mathematics.		
	Advanced Mathematics/Pre-Algebra 6-8	N/A	Mathematics
110050	(not for high school credit)		
	Optional program that accelerates completion of the K-8 program		
	and prepares students to enroll in high school level courses prior to		
	grade 9.		

**Table 12. High School Level Mathematics Codes (11xxxx)** 

Subject	Description	Suggested	<b>Core Subject</b>		
Code		Subject	Area (for		
		Area for	HQT)		
		Credit			
Topic-Focused Mathematics Course Sequence: A four-year program or sequence of courses that ad-					
dress hig	dress high school level content through topic-focused, discrete courses.				

Subject	Description	Suggested	<b>Core Subject</b>
Code	•	Subject	Area (for
		Area for	HQT)
		Credit	( )
	Algebra I	MTH	Mathematics
11020:	In-depth study of algebraic concepts and processes to represent and		
110301	solve problems that involve variable quantities. Includes using and		
	relating graphical and symbolic representations and techniques.		
	Geometry	MTH	Mathematics
111200	In-depth study of two and three-dimensional geometry including		
111200	representing problem situations using geometric models, deductive		
	reasoning, and geometry from an algebraic perspective.		
	Algebra II	MTH	Mathematics
110302	Further study of algebraic concepts and processes such as matrices,		
	vectors, and logarithmic and trigonometric functions.		
	Advanced Mathematics	MTH	Mathematics
110099	The study of advanced topics in functions, algebra, geometry, and		
	data analysis including the conceptual underpinnings of calculus.		
	ed Mathematics Course Sequence: A four-year program or seque		
the conte	ent in the grades 9-12 portion of Ohio's academic content standards us	sing an integr	rated approach.
All conte	ent standards, e.g., algebra, geometry, and data analysis, are included i	n each course	e
	Integrated Mathematics I	MTH	Mathematics
110010	The first course in a four-year sequence which addresses the grades		
110010	9-12 portion of Ohio's academic content standards for mathematics		
	using an integrated approach.		
	Integrated Mathematics II	MTH	Mathematics
110020	The second course in a four-year sequence that extends understand-		
110020	ing of and addresses new content in algebra, geometry, data analy-		
	sis, and probability.		
	Integrated Mathematics III	MTH	Mathematics
110030	The third course in a four-year sequence that expands the study of		
110030	algebra, geometry, data analysis, probability, and/or discrete math-		
	ematics to include greater depth of understanding and application.		
	Integrated Mathematics IV	MTH	Mathematics
110040	The fourth course in a four-year sequence that addresses advanced		
110040	content in algebra, geometry, data analysis, probability, discrete		
	mathematics, and/or conceptual underpinnings of calculus.		
	<b>Mathematics Course Sequence:</b> Three-year program or sequence of		
	evel content through concrete models and real-world situations and wi	_	•
	ation and formal mathematical structure. See Program Model A for	r mathematic	s on the ODE
website	for description of applications driven mathematics.	T	T
	Applied Algebra	MTH	Mathematics
110480	Includes courses with an algebra focus such as Basic Algebra, In-		
	formal Algebra, or Applied Algebra.		
	Applied Geometry	MTH	Mathematics
110490	,		
	Informal Geometry, or Applied Geometry.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Applied Mathematics	MTH	Mathematics
110500	Includes new, high school level content with an emphasis on appli-		
	cation that expands the study of algebra, geometry, data analysis,		
	probability, and/or discrete mathematics.		

Table 13. Additional High School Level Mathematics Codes (11xxxx)

	Description	Suggested	<b>Core Subject</b>
Code	_	Subject	Area (for
		Area for	HQT)
		Credit	
	Intervention Mathematics	MTH	Mathematics
	(high school credit optional in grades 9-12, not for high school cred-		
	it below grade 9)		
111950	Course designed specifically as intervention for students who have		
111750	taken and not yet reached the proficient standard on the Ohio		
	Graduation Test for mathematics. Prepares students to retake the		
	test, includes little or no new significant content, and is remedial in		
	nature.		
	Transition to High School Mathematics	MTH	Mathematics
	(high school credit optional in grades 9-12, not for high school cred-		
	it below grade 9)		
	Course designed specifically as intervention for students who enter		
110190	grade 9 not ready for high school level mathematics courses. Use		
	this code for courses that contain little or no new high school level		
	content, such as pre-algebra, general mathematics, business mathe-		
	matics and consumer mathematics courses based on the benchmarks		
	and indicators found in the grades 6-8 portion of the Ohio Academ-		
	ic Content Standards.		
	Discrete Mathematics	MTH	Mathematics
111200	The study of mathematical properties of sets and systems that have		
111300			
	ic counting techniques and algorithmic thinking to represent, ana-		
	lyze, and solve problems.	NATELI	Madhamadian
	Trigonometry	MTH	Mathematics
111600	In-depth study of trigonometric and circular functions including		
	modeling, graphing, and connecting to polar coordinates, complex		
	numbers, and series.  Transition to College Methematics	MTH	Mathematics
	<b>Transition to College Mathematics</b> A course designed for students in grades 11-12 making a transition	IVIII	iviamemancs
111850	to a college preparatory program. Content includes new topics and		
111850	revisits some previously addressed topics with increased emphasis		
	on symbol manipulation and mathematical structure.		
	on symbol mampulation and mathematical structure.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
	D 1 1994 164 (1.4)	Credit	3.6.4
	Probability and Statistics	MTH	Mathematics
111500	In-depth study of probability, data analysis, and statistics including		
111500	applying the concept of random variables to generate and interpret		
	probability distributions, transforming data to aid in interpretation and prediction, and testing hypotheses using appropriate statistics.		
	Statistics	MTH	Mathematics
	The purpose of this course is to introduce students to the major con-	WIIII	Mathematics
	cepts and tools for collecting, analyzing, and drawing conclusions		
119550	from data. Students are exposed to four broad conceptual themes:		
	Exploring Data, Sampling and Experimentation, Anticipating Pat-		
	terns, and Statistical Inference.		
	Calculus	MTH	Mathematics
110600	A formal study of topics from calculus that is not associated with		
110600	the Advanced Placement Program. Includes the study of limit, se-		
	ries, and differentiation and integration.		
	Calculus AB	MTH	Mathematics
	Calculus AB is designed to be taught over a full high school aca-		
	demic year. It is possible to spend some time on elementary func-		
119930	tions and still teach the Calculus AB curriculum within a year.		
117750	However, most of the year must be devoted to the topics in differen-		
	tial and integral calculus. The courses described here represent col-		
	lege-level mathematics for which most colleges grant advanced		
	placement and/or credit.  Calculus BC	MTH	Mathamatica
	Calculus BC is a full-year course in the calculus of functions of a	MIT	Mathematics
	single variable. It includes all topics taught in Calculus AB plus		
	additional topics, but both courses are intended to be challenging		
119960	and demanding; they require a similar depth of understanding of		
	common topics. The courses described here represent college-level		
	mathematics for which most colleges grant advanced placement		
	and/or credit.		
	Other Mathematics Course	MTH	Mathematics
	High school level elective course that addresses advanced		
	mathematical topics. Course Other mathematics course for which		
119999	high school credit can be earned that is different in scope from any		
119999	of the other SUBJECT CODES described above. Course that		
	address concepts and skills below the 9-12 portion of Ohio's		
	academic content standards for mathematics should be coded as		
	111950 Intervention Mathematics.		

## Science Section

Table 14. Science Codes (13xxxx)

	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
132110	Science (PreK-3) Early childhood science course for grades preK-3 which enables all students to develop standards-based knowledge and skills. Course includes changes on the earth and in the sky, living and nonliving environmental resources, rocks and soil, sky and earth cycles; characteristics and diversity of plants and animals, habitats, interactions between living things and their environment, interdependence and survival of plants and animals in Ohio, heredity; characteristics of objects and how they move, forces, physical interactions and changes, sources of energy, light and sound; natural or manmade objects, tools and materials, building/using technology, purpose, process and effects of science and technology; design process; different ways people learn about science, science in all societies, the nature of		Science
	science investigation; measurement, tools and safety; ethical practices; scientific inquiry involving wondering, questioning, investigating, and communicating.  Science (4-6)  Middle childhood science course for grades 4-6 which enables all students to develop standards-based knowledge and skills. Course includes rocks, weather, erosion, the Earth and it's place in the solar	N/A	Science
132120	system; diversity of animal classifications and adaptations, plant classifications and adaptations, ecosystems; forces and motion, physical and chemical changes in matter, thermal and electric energy and energy transfer; renewable and nonrenewable resources ,helpful and harmful results, technology and human lives, design processes, technology and the environment; documentation of science investigations, careers in science, thinking scientifically in daily life; using results and data, explanation of observations and investigations, methods of investigation, facts and theories; safely conducting investigations, measuring and collecting, formulating conclusions, and communicating findings.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
	C-: (7.9)	Credit	C.:
	Science (7-8) Middle childhood science course for grades 7-8 which enables all	N/A	Science
	students to develop standards-based knowledge and skills. Course		
	includes rocks and minerals, weather and climate, space, plate tec-		
	tonics, theories related to the changes of the Earth's surface; cells,		
	reproduction, diversity and factors of ecosystems, similarities and		
	differences among species, survival of species; chemical and physi-		
	cal changes, nature of energy, conservation of matter and energy,		
132130			
	the quality of life, abilities to do technological design, ethical issues		
	of technology, design solutions, history and relationships between		
	culture, society and technology; skills of scientific inquiry, science practiced in everyday life, validity of scientific experiments, ethical		
	practices, describing and explaining in science; conducting safe in-		
	vestigations using proper tools, applying mathematics skills, evalu-		
	ating and analyzing variables of data, and drawing valid conclusions		
	based on evidence.		
	Integrated Sciences I: Physical Sciences	SCI	Science
	High school science course that contributes to the Ohio Graduation		
	Test and develops standards-based knowledge and skills. Course		
	includes atoms, chemical reactions, physical properties, mixtures		
132212	and solutions, laws of motion, forces, energy, waves, historical per-		
	spectives and emerging issues; processes within and on the Earth, Earth's history through geologic evidence, resources; relationship		
	between technology and science; diversity of scientific investiga-		
	tions, scientific theories, scientific literacy, scientific conclusions,		
	and modeling investigations.		
	Integrated Sciences II: Biological Sciences	SCI	Science
	High school science course that contributes to the Ohio Graduation		
	Test and develops standards-based knowledge and skills. Course		
	includes cells, genetics and DNA, diversity of life, ecology, biologi-		
132214			
	within and on the Earth, Earth's history through geologic evidence,		
	resources; scientific advances and emerging technologies; nature of science inquiry, ethics in science, science and careers, and modeling		
	investigations.		
	Integrated Sciences III: Environmental Sciences	SCI	Science
	High school science course to develop standards-based knowledge	· · · · · · · · · · · · · · · · · · ·	··· <i>·</i>
	and skills. Course includes interactions between humans and the		
132216	Earth; ecosystems, environmental factors, biological evolution,		
132210	populations, diversity; matter and energy, relationships; human in-		
	teractions with science and technology, understanding technology;		
	research, science and society; application of science processes, and		
	techniques and research.		

Code Subject Area for	A (C
Area for	Area (for
	HQT)
Credit	
	Science
High school science course, which includes little or no new content	
from courses previously taken by students who have taken but have	
not yet successfully passed the Ohio Graduation Test. The variety of standards-based instruction and assessment strategies used in this	
course is appropriate to assist student preparation for the Ohio	
Graduation Test.	
	Science
High school science course that contributes to the Ohio Graduation	
Test and develops standards-based knowledge and skills. Course	
includes atoms, chemical reactions, physical properties, mixtures	
132220 and solutions, laws of motion, forces, energy, waves, historical per-	
spectives and emerging issues; relationship between technology and	
science; diversity of scientific investigations, scientific theories,	
scientific literacy, scientific conclusions, and modeling investiga-	
tions.	
	Science
High school science course that contributes to the Ohio Graduation	
Test and develops standards-based knowledge and skills. Course includes cells, genetics and DNA, diversity of life, ecology, biologi-	
cal evolution, historical perspectives and emerging issues; scientific	
advances and emerging technologies; nature of science inquiry, eth-	
ics in science, science and careers, and modeling investigations.	
	Science
High school science course to develop standards-based knowledge	
and skills. Course includes interactions between humans and the	
Earth; ecosystems, environmental factors, biological evolution,	
populations, diversity; matter and energy, relationships; human in-	
teractions with science and technology, understanding technology;	
research, science and society; application of science processes, and	
techniques and research.	
	Science
High school science course to develop standards-based skills and concepts in the earth and space sciences. Course includes energy in	
the Earth system, geochemical cycles, origin and evolution of the	
Earth system, and origin and evolution of the universe.	

•	Description	Suggested	Core Subject
Code		Subject Area for	Area (for HQT)
		Credit	
	Chemistry	SCI	Science
130301	The study of the composition, structure, properties of, and changes		
	in matter, including the accompanying energy phenomena.	COL	G :
	Physics The study of motter and enemy including the study of phenomena.	SCI	Science
130302	The study of matter and energy, including the study of phenomena associated with mechanics, heat, wave motion, sound, electricity		
	and magnetism, light, and atomic and nuclear structure.		
	Advanced Biology	SCI	Science
	Advanced high school course that contributes to competencies be-		
	yond the Ohio Graduation Test. Course develops specialized con-		
132330	tent to extend connections, depth, and detail of biology, including		
	concepts in anatomy, physiology, ecology, behavior, evolution, ge-		
	netics, cell biology, microbiology, diversity, growth, and human		
	biology.	G G*	~ .
	Advanced Chemistry	SCI	Science
	Advanced high school course that contributes to competencies beyond the Ohio Graduation Test. Course develops specialized con-		
132326	tent to extend connections, depth, and detail of chemistry, including		
	concepts in inorganic, organic, analytical, physical and biochemis-		
	try.		
	Advanced Earth and Space Sciences	SCI	Science
	Advanced high school course that contributes to competencies be-		
132340	yond the Ohio Graduation Test. Course develops specialized con-		
	tent to extend connections, depth, and detail of the major concepts		
	and principles of earth and space sciences, astronomy, oceanography, meteorology, geology, and natural resources.		
	Advanced Physics	SCI	Science
	Advanced high school course that contributes to competencies be-	ber	Belefice
	yond the Ohio Graduation Test. Course develops specialized con-		
132325	tent to extend connections, depth, and detail of physics, including		
	concepts in mechanics, electricity, magnetism, thermodynamics,		
	waves, optics, atomic and nuclear physics, radioactivity, relativity,		
	and quantum mechanics.	CCI	a ·
	<b>Physics B</b> Course includes topics in both classical and modern physics. Course	SCI	Science
	provides instruction in each of the following five content areas:		
139905	Newtonian mechanics, fluid mechanics and thermal physics, elec-		
	tricity and magnetism, waves and optics, and atomic and nuclear		
	physics.		
	Physics C - Electricity & Magnetism	SCI	Science
139940	Course provides instruction in each of the following five content		
157740	areas: electrostatics; conductors, capacitors, and dielectrics; electric		
	circuits; magnetic fields; and electromagnetism.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Physics C – Mechanics	SCI	Science
	Course provides instruction in each of the following six content are-		
139950	as: kinematics; Newton's laws of motion; work, energy, and power;		
	system of particles and linear momentum; circular motion and rota-		
	tion; and oscillations and gravitation.		
	Other Science	SCI	Science
139997	A science course offered in high school that contains subject matter		
139991	that aligns with grades 9 and 10 science standards, but is different in		
	scope than any other subject codes described in this Appendix.		
	Other Advanced Science	SCI	Science
139998	An advanced science course offered in high school that contains		
	but is different in scope than any other advanced science codes de-		
	scribed in this Appendix.		

## Social Studies Section

### **Table 15. Social Studies Codes (15xxxx)**

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for Credit	HQT)
	Social Studies (K-3)	N/A	
151209	Social studies instruction offered primarily for students in grades K-3.	1 1/1 1	
	Social Studies (4-6)	N/A	
151210	Social studies instruction offered primarily for students in grades 4-6.		
	Social Studies (7-8)	N/A	_
151201	Integrated study using various social studies disciplines. (for grades 7-8)		
150110	Anthropology (7-8) The study of the physical, social and cultural development of humans. (for grades 7-8)	N/A	
	(FY12 is the last year for this course; it will be deleted in FY13.)		
150610	<b>Economics (7-8)</b> The study of how society uses its resources to satisfy the desires of its citizens for goods and services. (for grades 7-8)	N/A	Economics
150701	Geography (7-8)	N/A	Geography
	The study of spatial aspects of human existence. (for grades 7-8)		a
150305	Government (7-8) The study of institutions and processes through which decisions are made for a society. (for grades 7-8)	N/A	Civics and Government
150807	History (American) (7-8) The study of America's past. (for grades 7-8)	N/A	History

Subject Code	Description	Suggested Subject Area for Credit	Core Subject Area (for HQT)
152310	<b>History (Integrated) (7-8)</b> The integrated study of American history and world history. (for grades 7-8)	N/A	History
152410	History (Regional) (7-8) The study of a region's past. (for grades 7-8)	N/A	History
150888	(FY12 is the last year for this course; it will be deleted in FY13.) <b>History (World) (7-8)</b> The study of the world's past. (for grades 7-8)	N/A	History
151131	Psychology (7-8) The study of the human mind and its influence on behavior. (for grades 7-8)	N/A	_
	(FY12 is the last year for this course; it will be deleted in FY13.)		
150210	Social Psychology (7-8) The study of individual human behavior in groups. (for grades 7-8)	N/A	
	(FY12 is the last year for this course; it will be deleted in FY13.)	NT/A	
151207	Sociology (7-8) The study of social relationships, institutions, and group behavior in societies. (for grades 7-8)  (FY12 is the last year for this course; it will be deleted in FY13.)	N/A	_
150100	Anthropology The study of the physical, social and cultural development of humans.	SOC	
150600	Economics The study of how society uses its resources to satisfy the desires of its citizens for goods and services.	SOC	Economics
150700	Geography The study of spatial aspects of human existence.	SOC	Geography
150300	Government (American) The study of institutions and processes through which decisions are made for the United States.	SOC	Civics and Government
150308	Government/Economics (American) The study of institutions and processes through which decisions are made for the United States and the study of how the United States uses its resources to satisfy the desires of its citizens for goods and services.	SOC	Civics and Government
150810	History (American) The study of America's past.	SOC	History
152300	History (Integrated)	SOC	History
152400	The integrated study of American history and world history. <b>History (Regional)</b> The study of a region's past.	SOC	History

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
150890	History (World)	SOC	History
	The study of the world's past.	202	
152100	Integrated Social Studies	SOC	_
	Integrated study using various social studies disciplines.	909	
4 70 400	Intervention Social Studies	SOC	_
150400			
	little or no significant new content.	~~~	
151121	Psychology	SOC	_
	The study of the human mind and its influence on behavior.		
151205	Social Psychology	SOC	
	The study of individual human behavior in groups.	~ ~ ~	
	Sociology	SOC	
151300	The study of social relationships, institutions, and group behavior in		
	societies.		
152810	European History	SOC	History
102010	The study of Europe's past.		
	Government & Politics (Comparative)	SOC	Civics and
159960	The comparative study of the institutions and processes through		Government
	which decisions are made for societies.		
	Government & Politics (United States)	SOC	Civics and
159950	The study of institutions and processes through which decisions are		Government
	made for the United States.		
159930	Macroeconomics	SOC	Economics
107750	The study of the functioning of entire economies.		
	Microeconomics	SOC	Economics
159940	The study of the behavior of individual households, firms and mar-		
	kets.		
	Issues in Social Studies	SOC	_
152150	The study of issues related to the social studies utilizing applica-		
	tions of relevant disciplines.		
	Other Social Studies	SOC	
159999	The study of specialized social studies topics (including community		
	service courses per ORC 3313.60.5).		

### **Technology Section**

**Table 16. Computer Science Codes (29xxxx)** 

	Compact Science Codes (25 mmm)		
Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	

The following courses do not earn high school technology credit. This instruction may also be provided by a teacher to multiple groups of students rather than in a self-contained classroom setting. The K-8 content across Ohio's Technology standards defines achievement in meeting the No Child Left Behind 8<sup>th</sup> Grade Technology Literacy Requirement. Instruction is most effective when integrated with curricular components of other academic content areas.

•	Description	Suggested	Core Subject
Code		Subject Area for	Area (for HQT)
	C 4 M 12 12 12 12 2	Credit	
	Computer/Multimedia Literacy K-3  Includes content in the V-2 portion of Objects academic content	N/A	
290035	Includes content in the K-3 portion of Ohio's academic content standards for technology that focuses on the use of educational		
	technology for learning.		
	Computer/Multimedia Literacy 4-6	N/A	
	Includes content in the 4-6 portion of Ohio's academic content	11/1	
290040	standards for technology that focuses on the use of educational		
	technology for learning.		
	Computer/Multimedia Literacy 7-8	N/A	
	Includes content in the 7-8 portion of Ohio's academic content	1 1/2 1	
290045	standards for technology including keyboarding, word processing,		
	productivity, communication and information tools.		
Compute	er Science codes include computer/multimedia literacy, software, In	nternet, syste	ms/networking
	ramming. All courses should be based on advanced topics aligned		
	chnology academic content standards. Credit cannot be given for		
grade.	<i>c.</i>	•	
	Computer/Multimedia Literacy	TEC	
290050	Course focuses on advanced concepts in 9-12 portion of Ohio's		
290030	technology academic content standards. Instruction is most effective		
	when integrated or linked to other content areas.		
	<b>Technology-Productivity Tools</b>	TEC	
	Course focuses on advanced concepts in 9-12 portion of Ohio's		
290100	technology academic content standards that increase personal		
	productivity and manage information. Instruction is most effective		
	when integrated or linked to other academic areas.		
	Technology-Communication Tools	TEC	
	Course focuses on advanced concepts in the 9-12 portion of Ohio's		
290110	technology academic content standards including identifying pur-		
	pose, audience and communication strategy. Instruction is most ef-		
	fective when integrated or linked to other academic content areas.		
	Technology-Problem-Solving Tools	TEC	
200120	Course focuses on advanced concepts in the 9-12 portion of Ohio's		
290120	technology academic content standards including inquiry/problem-		
	solving skills and technology tools. Instruction is most effective		
	when integrated or linked to other academic content areas.	TEC	
	<b>Internet Searching</b> Course focuses on advanced concepts in the 9-12 portion of Ohio's	IEC	
290130	technology academic content standards including Internet search		
	strategies, search engine ranking methods and Web site evaluation.		
	Technology: Electronic Resources	TEC	
	Course focuses on advanced concepts in the 9-12 portion of Ohio's		
	technology academic content standards including information liter-		
290075	acy concepts and use of technology tools to conduct research. Top-		
	ics include use of Internet and other electronic information		
	resources.		
		1	1

Subject	Description	Suggested	Core Subject
Code	2 coorporous	Subject	Area (for
		Area for	HQT)
		Credit	
	Technology and Ethics	TEC	_
	Course focuses on advanced concepts in the 9-12 portion of Ohio's		
290140	technology academic content standards and library guidelines in-		
	cluding copyright, intellectual property, biotech and other current		
	ethical concerns.		
	Computer Graphics	TEC	
290150	Course includes design techniques used to generate computer		
290130	graphics. Topics may include use of tools to draw, import, edit, cre-		
	ate, animate images, photos, original artwork, etc.		
	Computer Science	TEC	
	Course includes study and use of programming languages, i.e.,		
290200			
	MSDN, etc. Topics also include operating systems, servers, net-		
	works, etc.		
	Computer Science A	TEC	
	The study of programming methodology with an emphasis on prob-		
290310	lem solving and algorithm development. Also includes study of data		
	structures and abstraction, but not to the extent as covered in Com-		
	puter Science AB.		
	Computer Science AB	TEC	
290320	Includes all topics of Computer Science A, as well as a more formal		
	and more in-depth study of algorithms, data structures and data ab-		
	straction.	TEC.	
	Web Site Development	TEC	_
200160	Course includes Web site design, posting/removing Web sites		
290160			
	Course should cover Universal Design and other accessibility meth-		
	ods. Advanced Web Site Development	TEC	
290165	Course should include advanced Web programming and applica-	TEC	
290103	tions, Universal Design and other accessibility methods.		
	Networking	TEC	
290170	Course includes operating systems, printers/print servers, network	ILC	
270170	configuration and servers, etc.		
	Computer Repair	TEC	
290180	Course includes troubleshooting, repair, system/network reconfigu-	ILC	
270100	ration, help desk practices, etc.		
	Other Computer Technology	TEC	
	A course that is given for High School credit to be applied toward		
299999	the diploma, but that is different in scope from any of the other		
	SUBJECT CODES described above.		
	SOULCE CODES GOSCITOCA GOOVE.	l	1

Table 17. Information Literacy Codes (20xxxx)

	Information Literacy Codes (20xxxx)		
Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
The follo	owing courses do not earn high school technology credit. This instru	ction may al	so be provided
	ther to multiple groups of students rather than in a self-contained class		
tent acro	ss Ohio's Technology standards defines achievement in meeting the	No Child L	eft Behind 8th
Grade T	echnology Literacy Requirement. Instruction is most effective when	n integrated	with curricular
compone	ents of other academic content areas.		
	Information Literacy K-3	N/A	
200910	Instruction that includes content in the K-3 portion of Ohio's tech-		
	nology academic content standards and library guidelines.		
	Information Literacy 4-6	N/A	
200915	Instruction that includes content in the 4-6 portion of Ohio's tech-		
	nology academic content standards and library guidelines.		
	Information Literacy 7-8	N/A	
200920	Instruction that includes content in the 7-8 portion of Ohio's tech-		
200920	nology standards and library guidelines including Internet search-		
	ing, evaluation of Web sites and other electronic resources.		
Informat	ion literacy codes focus on acquisition, interpretation, and dissem	ination of in	formation. All
	should be based on advanced topics aligned with the 9-12 section of		••
demic co	ontent standards and Library Guidelines. Credit cannot be given for	concepts bel	low 9th – 12th
grade.			
	Library Science	TEC	
200700	Course focuses on how information is organized, accessed, and		
200700	evaluated, including use of information management systems in		
	school, public, academic, and government libraries.		
	Information Literacy	TEC	
	Instruction focuses on recognizing the need for information and de-		
200905	veloping the skills to locate, evaluate and utilize the information.		
	Learning experiences include information retrieval and critical		
	thinking skills that enable students to acquire, interpret, evaluate,		
	create, and communicate information. Information sources include		
	print, nonprint, electronic, Internet-based resources accessed via the		
	school library, school district, Internet, statewide/national networks,		

**Table 18. Technology Education Codes (10xxxx)** 

and other providers.

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	

The following courses do not earn high school technology credit. This instruction may also be provided by a teacher to multiple groups of students rather than in a self-contained classroom setting. The K-8 content across Ohio's Technology standards defines achievement in meeting the No Child Left Behind 8<sup>th</sup> Grade Technology Literacy Requirement. Instruction is most effective when integrated with curricular components of other academic content areas.

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Technological Literacy K-3	N/A	
102285	Instruction that includes content in the K-3 portion of Ohio's aca-		
	demic content standards for technology.		
	Technological Literacy 4-6	N/A	
102290	Instruction that includes content in the 4-6 portion of Ohio's aca-		
	demic content standards for technology.		
	Technological Literacy 7-8	N/A	
102295	Instruction that includes content in the 7-8 portion of Ohio's aca-		
	demic content standards for technology.		

**Technology Education:** A comprehensive study of the knowledge and processes necessary in designing, making, developing, producing, using, managing, and assessing of technological systems and products. Dimensions of technology include assessing impacts and consequences of technology, nature and history of technology, and connections. Technological systems and products are those systems and products that change the world around us to satisfy our needs and wants. In particular Technology Education focuses on the systems and products of the energy/power/transportation, manufacturing, construction, communication, and bio-related/chemical fields. These activities may take place in thematic units at the elementary level, general technology courses at the middle and high school levels, specific high school systems courses, Tech Prep and Pathways courses at the high school level, and modules and problem-based learning integrated with mathematics, science, language arts, social studies and arts teams at all levels.

**Technology Education** Comprehensive action-based courses concerned with the evolution, 102300 utilization, and significance of technology and its impact on industry, including its organization, personnel, systems, techniques, resources, products, and socio cultural aspects. **Foundations of Technology** TEC Prepares students to understand and apply technological concepts and processes that are the cornerstone for the high school technology program. Group and individual activities engage students in creating ideas, developing innovations and engineering practical solutions. Technology content, resources and laboratory/classroom activities apply student applications of science, mathematics and other school subjects in authentic situations. This course will focus on the three dimensions of technological literacy: knowledge, ways of thinking and acting, and capabilities, with the goal of students developing the characteristics of technologically literate citizens. **Research and Development** TEC The study of industrial-technical problems, including provisions for 101700 individual or group investigations of problems and opportunities to evaluate their solutions by designing, constructing, and testing products.

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
	Dogina	Credit	
	<b>Design</b> Course includes design topics from the 9-12 portion of Ohio's tech-	TEC	<del></del>
	nology academic content standards; including identifying and pro-		
	ducing a product or system using a design process and evaluating		
101720	the final solution, and communicating findings; recognizing the role		
	of teamwork in engineering design and of prototyping in the design		
	process; and understanding and applying research, development,		
	and experimentation to problem-solving.		
	Issues and Problems in Technology	TEC	_
101730	The study of themes concerning technology, society, and the envi-		
	ronment.		
	ction Technology Systems: A comprehensive study of the knowled		
0.	ing, developing, producing, using, managing, and assessing of techr		
	uild structures on site. In particular courses that are part of the const		
	project planning, architectural design and drafting, site preparation,	building the	structure, and
maintain	ing the structure.	TEC	
	Construction The study of the technology and the socioeconomic contributions of	IEC	_
100100	The study of the technology and the socioeconomic contributions of those industries concerned with residential, civic industrial, civil,		
	and transportation structures.		
	Home Mechanics	TEC	
100800	The study of the tools, materials, and processes involved in the up-	TEC	
	keep and repair of the home, its equipment and devices.		
Manufa	cturing Technology Systems: A comprehensive study of the know	ledge and pr	ocesses in de-
signing,	making, developing, producing, using, managing, and assessing of	technologica	al systems and
products	in manufacturing facilities. In particular courses that are part of man	nufacturing to	echnology sys-
	us on mechanical design and drafting, materials, and processes (inc	luding wood:	s, metals, plas-
tics), pro	duction, robotics, and automation systems, and specific trades/crafts.	T	
	Manufacturing	TEC	<del></del>
101300	The study of the technology and the socioeconomic contributions of		
	industries concerned with the creation of durable consumer prod-		
	ucts.  Robotics	TEC	
	Application of processes and knowledge in the design, develop-	IEC	
101350	ment, and use of systems to manage and control devices. Products		
101330	of student work in robotics may be descriptive and/or functional		
	models of technology applications across all systems areas.		
	Service Industries	TEC	
101800	The study of the technology of industries concerned with the		
	maintenance and repair of consumer and/or industrial products.		
	Woods Processes	TEC	_
	Information and skills concerned with woods, including various		
101900	manufactured wood products, focusing on the technology employed		
101700	in the manufacture and construction of products using woods and		
	related factors such as occupations, economics, and consumer in-		
	formation.		

Subject	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Metals Processes	TEC	
	Information and skills concerned with metals including the products		
101410	manufactured from metals and the technology employed in the pro-		
	duction, processing, and use of metals, as well as related factors		
	such as occupations, economics, and consumer information.		
	Plastics	TEC	
101500	Information and skills concerned with the production, processing,		
101300	and use of plastics, composites and related factors such as occupa-		
	tions, economics, and consumer information.		
	Industrial Crafts	TEC	_
100200	Information and skills concerned with handcrafts and the craft in-		
	dustry, including its tools, materials, processes, products, and occu-		
	pations.		

Communication Technology Systems: A comprehensive study of the knowledge and process in designing, making, developing, producing, using, managing, and assessing of technological systems to products for transferring graphic and electronic messages. Computer modeling and information technology applications are critical to all technology systems areas. In particular courses that are part of communication technology systems focus on existing and emerging information technologies for encoding, transmitting,

receiving, storing, retrieving, and decoding of graphic and electronic messages.

Teeel villa	g, storing, retrieving, and decoding or grapine and electronic messages	•	
	Drafting	TEC	_
100300	Information and skills concerned with conveying ideas or illustra-		
	tions graphically through drawings, charts, sketches, maps, and		
	graphs, and the related factors such as the role of drafting in history		
	and industry.		
	Electricity/Electronics	TEC	—
	Information and skills concerned with electrical energy including		
100401	theory, applications, and control as it relates to electrically powered		
100401	equipment, to various kinds of communications equipment, and to		
	related factors such as occupations, economics, and consumer in-		
	formation.		
	Graphic Arts	TEC	_
100700	The study of information and skills concerned with graphic repro-		
100700	duction, as well as related factors such as occupations, economics,		
	and consumer information.		
	Communications	TEC	_
	Provides an introduction to technical communication systems and		
102000	processes. Students use a variety of technologies and media to cre-		
	ate, implement, and evaluate a network to solve a communication		
	problem.		
102500	Industrial Computer Applications	TEC	_
	Experiences with computer applications across the technological		
	systems areas. Selected activities covering computer hardware,		
	software, and interface device applications to develop understand-		
	ing of industrial uses of computers.		

•	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
F //		Credit	1 1 1
	Power/Transportation Technology Systems: A comprehensive st		
	n designing, making, developing, producing, using, managing, and		
	to produce products for the transmission of energy and power, and		
	le. In particular technology courses focus on energy and power sour		
	f energy and power from one form to another, the transmission of e		
	nother, and the sale use of power. In addition transportation focuses of	on the system	is and products
	ansport goods and people.		
	Power Mechanics	TEC	—
	Information and skills concerned with the various forms of power,		
	including its generation, transmission, and utilization.		
	Energy/Power/Transmission	TEC	_
	Beginning-level course designed to provide a conceptualized study		
	of basic machines. Students obtain a basic understanding and devel-		
	op skills needed to identify, build, maintain, test, and develop ma-		
	chines.		
	ted and Chemical Technology Systems: A comprehensive study of		•
	ing, making, developing, producing, using, managing, and assessing		
produce 1	products with bio-related and chemical applications. In particular te	echnology co	urses focus on
practical	application of biological organism and chemical processes to make of	or modify pro	ducts, the pro-
duction p	process techniques related to agriculture, chemical, and medical techniques	chnology pro	ducts, and the
	terface with technology in managing the artificial and natural environ	ment.	
	Bio-Related and Chemical Technology Systems	TEC	
	Comprehensive study of the knowledge and process in designing,		
103050	making, developing, producing, using, managing, and assessing of		
	technological systems to produce products with bio-related and		
	chemical applications.		

## **CAREER-TECHNICAL EDUCATION SECTION**

# Workforce Development Section

Table 19. Career Field 01: Environmental & Agricultural Systems Codes (01xxxx)

	Description	Suggested	Core Subject
Code	_	Subject	Area (for
		Area for	HQT)
		Credit	
	Environmental and Agricultural Science	CTA	
	A sequence of introductory courses designed to deliver basic		
010001	knowledge and skills across all disciplines and industries associated		
010001	with agriculture, horticulture, mechanics, and natural resources.		
	Communications, business principles and leadership skill develop-		
	ment are essential to the program.		
010105	Agriculture, Food and Natural Resources	CTA	
	This is the first course in the Agricultural and Environmental Sys-		
	tems career field. It introduces students to the pathways that are of-		
	fered in the Agricultural and Environmental Systems career field.		
	As such, learners will obtain fundamental knowledge and skills in		
	food science, natural resource management, animal science and		
	management, plant and horticultural science, power technology and		
	biotechnology. Students will be introduced to the FFA organization		
	and begin development of their leadership ability.		
010110	Communications and Leadership	CTA	
	Students will analyze attributes and capabilities of those in leader-		
	ship positions and develop their communication and leadership		
	skills in authentic situations. The course prepares students to apply		
	journalistic, communication and broadcasting principles to the de-		
	velopment, production, and transmittal of agricultural and environ-		
	mental systems information.		
010115	<b>Business Management for Agricultural and Environmental Sys-</b>	CTA	
	tems		
	Learners will examine elements of business, identify organizational		
	structures and identify and apply management skills. Learners will		
	develop business plans, financial reports and strategic goals for new		
	ventures or existing businesses. Learners will use marketing con-		
	cepts to evaluate the marketing environment and develop a market-		
	ing plan with marketing channels, product approaches, promotion		
	and pricing strategies. Learners will practice customer sales tech-		
	niques and apply concepts of ethics and professionalism while un-		
	derstanding related business regulations.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for Credit	HQT)
010120	Structural Engineering	CTA	_
	Students will apply principles of engineering and design along with		
	an understanding of the properties and uses of construction materi-		
	als to buildings and structures used in agriculture, horticulture and natural resources. The course will focus on the study and utilization		
	of wood and lumber, metals, concrete and masonry, pipes and		
	plumbing, and electrical systems. Students will design, plan, build		
	and calculate costs-benefits analysis for construction projects while		
	abiding by all building code and safety regulations.  Animal Bioscience	СТА	
	A life science course that applies basic animal physiology and anat-	CIA	
	omy, animal health, animal nutrition, reproductive physiology and		
010170	breeding systems, genetics and animal improvement to agronomic		
010150	animals, companion animals and wildlife species. This is an activity driven course with an inquiry approach, providing a meaningful and		
	relevant application of animal biology to post-secondary fields of		
	study and 21st century careers in agriculture, food and natural re-		
	sources.	C/T/A	
	Plant and Horticultural Science This first course in the pathway focuses on the broad knowledge	CTA	
	and skills required to research, develop, produce and market agri-		
	cultural, horticultural, and native plants and plant products. Students		
010155	will apply principals and practices of plant physiology and anatomy,		
010133	plant protection and health, reproductive biology in plants, influences in bioengineering, plant nutrition and disorders. Environmen-		
	tal aspects of irrigation, chemical application, soils, and pest		
	management will be studied and applied. Projects and activities will		
	enable students to develop communication, leadership, and business		
010190	management skills.  Agricultural and Environmental Systems Capstone	CTA	_
	The capstone course is an opportunity for students to solve prob-		
	lems and demonstrate that they have achieved the requisite		
	knowledge and skills in their chosen Agricultural and Environmental Systems career field pathway. The course is designed to assess		
	cognitive, affective and psychomotor learning and to do so in a stu-		
	dent-centered and student-directed manner. The capstone requires		
	the application of learning to a project that serves as an instrument		
	of evaluation.  Agricultural and Industrial Power Technology	CTA	
	Applies principles of engineering in power, construction technology	CIA	
010201	gaining understanding of operation, maintenance, repair of power,		
	electrical, hydraulic and mechanical systems. Communications,		
	business principles and leadership skill development are essential.		

Subject Code	Description	Suggested Subject	Core Subject Area (for
Code		Area for	HQT)
		Credit	
	Agricultural and Industrial Power	CTA	
	The Agricultural and Industrial Power course will introduce stu-		
	dents to the breadth of the Agricultural and Industrial Power Tech-		
010210	nology pathway. Students will learn the principles of agricultural		
	and industrial power technology equipment systems including elec-		
	tronic, electrical, engines, fuel, hydraulics, and power trains. Additionally, students will learn to operate and maintain agricultural and		
	industrial equipment.		
	Electronic and Electrical Systems	CTA	
	In the <i>Electronic and Electrical Systems</i> course, students will diag-	CIA	
	nose problems, test and repair electronic and electrical components.		
	Students will learn physical principles of electricity and apply such		
010215	to the proper maintenance, diagnosis and repair of electrical cir-		
	cuits. Students will learn the physical and mathematical principles		
	of electronics, controllers and sensors and will learn the operation		
	of onboard computers and programmable controllers.		
	<b>Engines and Fuel Systems</b>	CTA	
	In the Engines and Fuel Systems course, students will learn basic		
	engine information and operations; different kinds of corollary sys-		
	tems; how to use test equipment and service tools; plus techniques		
010220	for diagnosis and testing. Students will learn the different kinds of		
	fuel systems, fuels and their characteristics, designations, and addi-		
	tives. Students will diagnose fuel system problems including the		
	identification of parts failure and will be able to make necessary repairs.		
	Hydraulics and Pneumatics	CTA	
	In the <i>Hydraulics and Pneumatics</i> course, students will learn physi-	C171	
04000	cal principles of hydraulics. They will diagnose problems, test sys-		
010225	tem components, learn how to properly maintain hydraulic circuits		
	and diagnose and test problem areas in hydraulics systems of agri-		
	cultural and industrial power equipment.		
	Power Trains	CTA	
	In the <i>Power Trains</i> course, students will learn the physical princi-		
010230	ples of power trains, the different components that transfer and con-		
010200	trol power, and how power trains are designed to function. Students		
	will also learn how to adjust and maintain a power train system as		
	well as how to diagnose and test problem areas.	CTA	
	Outdoor Power Technology The Outdoor Power Technology course trains students in technical	CTA	
	knowledge and skills necessary to maintain, troubleshoot and repair		
	small power equipment used in agriculture, horticulture and natural		
010235	resource management. Students will learn the theory of power and		
	progress through aspects of 2- and 4-stroke engines, electrical sys-		
	tems, fuel systems, and drive train systems that make up modern		
	small engine powered equipment.		

Subject	Description	Suggested	<b>Core Subject</b>
Code	2 escription	Subject	Area (for
0040		Area for	HQT)
		Credit	<b></b> (-)
	Power Sports	CTA	
	In the <i>Power Sports</i> course, students will learn the theories of oper-		
	ating systems and the maintenance practices for power sport vehi-		
010240	cles used off road or on the water. Students will learn principles of		
010240	power sports vehicles including diagnosis, service, and repair. This		
	courses covers core information on power sport internal combustion		
	engines, primary drive operation, transmission power flow, fuel sys-		
	tem operation, and electrical and suspension systems.		
	Agribusiness and Production Systems	CTA	_
	Applies principles of economics, business management and market-		
010301	ing in both an entrepreneur/manager and an employee role to the		
	leadership, planning, developing and analyzing of business enter-		
	prises related to agriculture, food and natural resources.		
	Horticulture	CTA	—
	Applies principles of plant anatomy, nutrition, reproduction, genet-		
010601	ics, health and artistic design to production, management, pro-		
010001	cessing and marketing of ornamental plants, landscapes and floral		
	designs. Communications, business principles and leadership skill		
	development are essential to the program.		
	Greenhouse and Nursery Management	CTA	<del></del>
	The course will apply principles of science, engineering, and busi-		
	ness to support the sustainable propagation and production of plants		
	in a commercial nursery or greenhouse facility. Management of		
010610	soil/media, water and nutrient distribution, lighting, ventilation and		
010010	temperature, and pests will be learned and applied. Students will		
	demonstrate knowledge of propagation methods, plant health, nutri-		
	tion, and growth stimulation. Students will develop successful busi-		
	ness, communication, marketing, and sales strategies for use in the		
	greenhouse and nursery industries.		
	Landscape Systems Management	CTA	—
	Students will learn methods for establishing and managing land-		
	scapes to promote growth and balance. The classification and care		
	of woody and herbaceous landscape plants will be covered in-depth.		
	Students will learn to optimize growing conditions, balance nutri-		
010615	ents, and manage pests and disease. Horticultural skills including		
	proper planting, fertilizing, and pruning techniques will be practiced		
	while safely operating well maintained specialized equipment. The		
	implications of landscape installation on the environment will be		
	analyzed and eco-friendly practices applied. Students will employ		
	communication, business, and management strategies appropriate		
	for the industry.		

Subject	Description	Suggested	Core Subject
Code	2 cocapulati	Subject	Area (for
0040		Area for	HQT)
		Credit	,
	Agronomic Systems	CTA	
	This course focuses on the knowledge and skills required to re-		
	search, develop, produce and market major agricultural and horti-		
	cultural crops. Cultural and sustainable production practices will be		
010620	examined. Students will apply scientific knowledge of plant devel-		
	opment, nutrition and growth regulation. The knowledge and skills		
	needed to manage water, soils, and pests related to agronomic crops		
	will be learned. Students will employ communication, business,		
	and management strategies appropriate for the industry.		
	Floral Design and Marketing	CTA	
	Students will use principles and elements of design to create various		
	types and styles of floral arrangements with natural and artificial		
010625	plants and plant products. Identification of ornamental plants and		
	cut flowers, use of design materials, and storage and handling appli-		
	cations will be examined. Students will develop successful business,		
	communication, marketing, and sales strategies for use in the floral		
	industry.	CT A	
	Landscape Design and Build Students will develop skills in landscape planning, design, estima-	CTA	
	tion and installation. Principles and elements of design and engi-		
	neering will be emphasized. Students will design full-featured		
010630			
010030	and install artificial lighting and water systems. Environmental ef-		
	fects of a landscape will be evaluated and eco-friendly techniques		
	applied. Students will employ communication, business, and man-		
	agement strategies appropriate for the industry.		
	Turf Science and Management	CTA	
	The course will apply principles of science, engineering, and busi-		
	ness to support the establishment and maintenance of residential,		
	athletic and recreational turf. Instruction in establishment, care,		
010635	production, and marketing of turf grass along with safe operation		
	and maintenance of specialized equipment will be provided. Envi-		
	ronmental awareness and conservation practices will be applied.		
	Students will employ communication, business, and management		
	strategies appropriate for the industry.		
	Natural Resource Management	CTA	_
	Applies science to management and protection of renewable and		
010701	non-renewable resources; includes fundamentals of land use, water-		
010701	sheds, wildlife, fisheries and forestry. Communications, business		
	principles and leadership skill development are essential to the pro-		
	gram.		

Subject	Description	Suggested	<b>Core Subject</b>
Code	F	Subject	Area (for
		Area for	HQT)
		Credit	
	Natural Resources	CTA	_
	Learners will apply science principles and management practices to		
	the protection of renewable and non-renewable natural resources.		
	Students will learn fundamentals of land use as well as watershed,		
010710	wildlife, fishery and forest management. Students will be intro-		
	duced to management practices related to managing air and water		
	quality along with requirements for managing solid and liquid		
	waste. Communications, business principles and leadership skill		
	development are essential to the program.		
	Energy Systems Management	CTA	<del></del>
	Students will apply basic principles of energy accounting, thermo-		
	dynamics and heat transfer, energy conversion and efficiency to		
	heating, power generation and transportation. Students will apply		
010715	the principles and practices needed for managing both renewable		
	and non-renewable energy sources including, solar thermal, hydrogen generation, photovoltaic, hydroelectric, biomass use, geother-		
	mal heat transfer, and fossil fuel. Future energy systems and energy		
	use scenarios are investigated, with a focus on promoting the use of		
	renewable energy resources and technologies.		
	Environmental Science for Agriculture and Natural Resources	CTA	
	Learners will study relationships between organisms and their envi-		
	ronment. Principles of biogeochemical cycles, air-water-land rela-		
	tionships, non-point pollution, and wetlands will be applied.		
	Learners will examine economic fundamentals of resource devel-		
010720	opment, agriculture sustainability, energy needs and pollution con-		
	trol. Learners will analyze and interpret data gathered from		
	ecosystems, population studies, forest management practices, pesti-		
	cide use, land use and waste management. Learners will develop		
	responses to environmental problems and develop management		
	strategies for responsible conservation and resource development.		
	Environmental Systems Management	CTA	<del></del>
	Learners will analyze and interpret biological, chemical and physi-		
	cal properties of soil, water and air. They will determine the source		
010707	and type of environmental contamination, evaluate pollution control		
010725	measures and be prepared to respond accordingly. Learners will be		
	able to monitor treatment processes for potable water, waste water		
	and solid waste. Learners will develop and implement environmen-		
	tal plans using principles governing ecosystems in relation to re-		
	source development and industrial processes.		

•	Description	Suggested	Core Subject
Code		Subject Area for	Area (for HQT)
		Credit	nqı)
	Forestry and Woodland Ecosystems	CTA	
	Learners will apply principles of botany, dendrology and silvicul-		
	ture to the management of forests and forest ecosystems. Learners		
	will apply principles of timber cruising with surveying and mapping		
010730	techniques to take forest measurements. Learners will develop the		
	knowledge and skills necessary for forest reforestation, timber stand		
	improvement, timber harvesting and forest product utilization.		
	Learners will operate and maintain forestry equipment, apply fire		
	management practices, and understand related regulations, laws,		
	and policy issues.  Park and Recreational Management	CTA	
	Students will design facilities, develop educational programs and	CIA	
	manage resources for use in public recreation. Students will main-		
	tain and operate equipment for maintaining wildlife habitat and		
010735	supporting a variety of public recreational activities. Students will		
	develop marketing and programming skills for park development,		
	apply management practices to park operations and learn the sys-		
	tems required to maintain public safety.		
	Urban Forestry	CTA	_
	The learner will promote the care and management of trees for resi-		
	dential and commercial purposes. Learners will apply principles of		
	soil management, dendrology and pest management to the care and		
010740	management of trees. Learners will analyze budgets; and develop		
	short and long-range management plans that balance environmental		
	and economic goals and that support sustainable land use patterns.		
	Principles of rigging, advanced rope techniques, and chainsaw ap-		
	plications for tree pruning and removal will be learned.	CT. A	
	Wildlife and Fisheries	CTA	
	Learners will apply the principles and practices of resource conservation and management to fish and wildlife populations. Students		
	learn to properly handle wild animals, principles of wildlife nutri-		
010745	1 1 1		
010743	natural and artificial propagation. Learners will apply principles of		
	facility design and layout for managing fish populations. Learners		
	will research and evaluate the impacts of various land practices,		
	legislation, and human activities on habitats and populations.		
	Animal Science and Management	CTA	
	Applies principles of animal anatomy, physiology, genetics, behav-		
010901	ior and nutrition to the research and development, selection and re-		
	production, health, and management of animals in a domestic		
	and/or natural environment.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
	A ' 10 ' 170 1 1	Credit	
	Animal Science and Technology	СТА	
	Learners will develop business leadership, problem-solving and communication skills in relation to the science and technology of		
	animals. Students will learn responsible animal management princi-		
	ples and routine husbandry practices in relation to animal welfare		
010910	and behavior. Learners will identify and describe the anatomy and		
	physiology of monogastric and ruminant organisms as it applies to		
	nutrition, reproduction, and animal health. Learners will investigate		
	animal genetics and how it impacts principles of animal improve-		
	ment, selection and marketing.		
	Animal Nutrition, Health and Reproduction	CTA	<del></del>
	Learners will apply principles of nutritional management for vari-		
	ous classes of animals. Learners will analyze nutritional con-		
	tent/quality of feeds; formulate rations; develop feeding		
010915	recommendations; identify deficiency symptoms and implement corrective methods as needed. Care/management plans are devel-		
	oped that reflect the classification of animals and follows best prac-		
	tices and legal compliance. Learners will monitor/evaluate the		
	quality of animal habitats and estimate carrying capacity as it relates		
	to the impact of the environment and animal health.		
	Livestock Science	CTA	
	Learners will apply principles of nutrition, health and reproduction		
	to the management of animals, poultry and fish in production agri-		
	culture. Learners will demonstrate understanding of anatomy and		
010920	physiology and apply genetic principles for improvement. Learners		
	will apply knowledge of animal behavior, welfare, and husbandry		
	principles. Learners will evaluate body/carcass composition and		
	apply marketing principles to the sale and distribution of livestock products. Learners will employ communication, business, and man-		
	agement strategies appropriate for the industry.		
	Small Animal Science	CTA	
	Learners apply principles of nutrition, health and reproduction to		
	the management of animals intended for companionship or re-		
	search. Through interpretation, problem-solving and diagnostic		
	methods, the learners develop and implement management pro-		
010925	grams that reflect responsible animal behavior, welfare and hus-		
	bandry practices. Learners implement principals and practices of		
	nutritional management, responsible breeding and disease manage-		
	ment. Safe handling, grooming and training skills are developed and		
	applied. Learners identify business management procedures and understand the importance of business regulations.		
	understand the importance of business regulations.		

•	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for Credit	HQT)
	Veterinary Science	CTA	
	Learners will develop knowledge of veterinary pharmacology, radi-		
	ology and imaging techniques, principles of surgery, safe laboratory		
	skills, and the concepts of ethics and professionalism in the work		
010930	place. Learners will develop skills in inquiry and statistical meth-		
010930	ods. Learners will describe causes, symptoms, and treatment of		
	common diseases with special emphasis on developing preventative		
	health management plans and breeding programs. Learners will uti-		
	lize principles of technology to manage information systems, and		
	research issues affecting the industry.		
	Equine Science and Management	CTA	
	Learners are introduced to responsible equine management princi-		
	pals and routine husbandry practices in relation to equine behavior		
	methodology and legal compliance. Learners will apply knowledge		
010935	of health and nutrition when designing preventative health care plans, breeding plans, and feed management programs. Safe han-		
010933	dling, grooming, training, equipment selection/maintenance/use and		
	emergency care techniques are developed and applied. Learners will		
	evaluate responsible stewardship practices and develop production		
	management strategies that emphasize the industries goals through		
	good reproductive decision-making.		
	Zoo and Aquarium	CTA	
	In this course, learners will identify and apply responsible animal		
	science principals and routine husbandry practices to captive animal		
	populations. Learners will apply knowledge of animal behavior,		
010940	welfare, and husbandry principals to enhance exhibit design, animal		
010740	enrichment and training plans, and educational and visitor engage-		
	ment programs. Emphasis will be given to data collection and re-		
	search techniques. Principles of responsible population control,		
	disease risk and management, and problem-solving/action planning		
	techniques will be examined.	CT. A	
	Food Science and Technology	CTA	<del></del>
011001	Applies principles of biology, chemistry and physics to the research		
011001	and development, production, processing, and distribution of food products meeting quality assurance standards in a system that is safe		
	and secure.		
	Science and Technology of Food	CTA	
	This first course in the pathway examines the research, marketing,	CIA	<del></del>
	processing and packaging techniques applied to the development of		
	food products. Learners will examine principles of food preserva-		
011010	tion techniques and determine correlations to food sensory, shelf		
011010	life and food stability. Learners will examine and develop food		
	safety, sanitation, and quality assurance protocol. Government regu-		
	lations and food legislation will be examined and the implications to		
	food science and technology will be identified.		

•	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
	Food Monketing and Degraph	Credit CTA	
	Food Marketing and Research Learners will focus on the stages of research process from research	CIA	_
	planning to gathering, analysis, and interpretation of data as it re-		
	lates to food marketing management. Learners will apply		
011015			
011013	hance existing food products and to create new processed foods.		
	Learners will identify and describe the impact that technological		
	advances have on food production and availability. Cultural trends		
	and preferences affecting product development will be examined.		
	Meat Science and Technology	CTA	
	Learners will apply food chemistry and microbiology to processing,		
	preservation, packaging, storage and marketing of meat products.		
	Learners will design and implement a quality assurance program		
011000	that meets legal compliance. Learners will evaluate carcass compo-		
011020	sition, assign quality grades, and examine valued-added products.		
	Learners will demonstrate knowledge of safety regulations and op-		
	erate and maintain equipment and facilities. Learners will practice		
	customer service and sales techniques while understanding the		
	scope and importance of business regulations.		
	Microbial Food Science and Safety	CTA	—
	Learners are introduced to the chemistry, bioengineering and mi-		
	crobiology involved in producing food products. Processes contrib-		
	uting to the appearance, taste, texture, and smell of food products		
011025	will be explored. Learners will examine functional foods, value-		
	added foods, organic foods and food additives. Contamination		
	points from biological hazards and food allergens will be identified		
	and preventive measures developed. Food laws, regulations and		
	regulatory and commercial grading standards will be examined.	CTT A	
	Applications of Food Science and Technology	CTA	<del></del>
	Learners will use principles and practices of food processing and		
	packaging to develop solutions for problems in food production,		
	handling and storage. Learners will examine heat preservation, cold		
011030	processing, food irradiation, fermentation, milling, and hydrogenation processing techniques. Learners will examine the process of		
	food product development and techniques used to measure food		
	sensory aspects, shelf life and food stability. Learners will examine		
	government regulation impact on labeling, new packaging technol-		
	ogies, harvesting, transportation, and the environment.		
	Biotechnology for Food, Plant, and Animal Sciences	CTA	
	, ,		
012000			
	^ *		
	manufacturing, medicine, food production and environmental pro-		
	tection.		
012000			

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Animal and Plant Biotechnology	CTA	_
	Learners will apply principles of chemistry, microbiology and ge-		
	netics to plant and animal research and product development. They		
012010	will describe the importance of biotechnology in society and ana-		
012010	lyze the issues that have affected agricultural biotechnology. Stu-		
	dents will apply genetic principals to determine genotypes and		
	phenotypes. Students will describe the parts and functions of animal		
	and plant cells and their importance in biochemistry.		

Table 20. Career Field 02: Arts & Communications Codes (04xxxx, 34xxxx)

	Description	Suggested	<b>Core Subject</b>
Code	_	Subject	Area (for
		Area for	HQT)
		Credit	
	Visual Design and Imaging	CTA, TEC	
	Programs that focus on the creation, design, and execution of lay-		
	outs and illustrations on various mediums including electronic me-		
340005	dia and the theory and processes of image transfer, including offset,		
5 10005	flexography, lithography, photoengraving and other techniques.		
	Communications, business principles and leadership skill develop-		
	ment related to the industry are essential to the program. Specializa-		
	tion areas include commercial art and graphic occupations.	C. T.	
	Principles of Arts and Communications	CTA	_
	A course focused on the fundamental principles and practices of		
	image capture, audio and writing in Media Arts; creating and out-		
340010	putting illustrations for Visual Design and Imaging; and creating,		
	interpreting and performing works for the Performing Arts all of		
	which convey a message and stimulate thought. Business principles and leadership skill development related to the industry are essential		
	to the program.		
	Media Arts	CTA	
	Programs that focus on the use of still and motion photography in	CIA	
	journalism. Communications, business principles and leadership		
340015	skill development related to the industry are essential to the pro-		
	gram. Specialization areas include journalism, photography and dig-		
	ital media.		
	Performing Arts	CTA	_
	Programs that focus on the creation, interpretation and performance		
	of works that use auditory, kinesthetic, and visual phenomena to		
340020			
	business principles and leadership skill development related to the		
	industry are essential to the program. Specialization areas include		
	music, dance and theater.		

Table 21. Career Field 03: Business & Administrative Services Codes (14xxxx)

	Description Description	Suggested	Core Subject
Code	F	Subject	Area (for
		Area for	HQT)
		Credit	· ,
	Introduction to Business and Administrative Services	CTA, BUS,	_
	This career field course is based upon the Business and Administra-	TEC	
	tive Services Career Field Technical Content Standards and in-		
140050	cludes content that crosses all pathways of the career field. It is the		
140030	basics course that leads to specialization in one of the career path-		
	ways of Administrative and Professional Support, Legal Manage-		
	ment and Support, Medical Management and Support, and		
	Management.		
	Interdisciplinary Career Field Business Concepts	CTA, BUS	<del></del>
	This course addresses business content specific to the various career		
	fields and is addressed in a contextual manner. Content is based on		
1.4007.5	business competencies, including business process and computer		
140075	applications, within the career field technical content standards for		
	the career field that serves as the anchor class. The course must be		
	correlated to an anchor course in any career field except business and administrative services, finance, marketing, or information		
	technology.		
	Administrative and Professional Support	CTA, BUS,	
	Based on a sequence of courses, students will be prepared for ca-		<del></del>
	reers which support business operations through a variety of admin-	TLC	
	istrative duties including information and communication		
4.40.200	management, data processing and collection, and project tracking.		
140300	Due to changes in technology, the skills required in administrative		
	support careers have increased and correspond with that of a mid-		
	level manager. Sample occupations within this pathway include:		
	administrative assistant, customer service representative, executive		
	assistant, office manager, and project coordinator.		
	Legal Management and Support	CTA, BUS,	—
	Based on a sequence of courses, students will be prepared for ca-	TEC	
	reers which facilitate legal operations through a variety of manage-		
	ment and administrative duties. Employees in this field are found in		
140310			
	rate businesses, and government regulatory agencies. Sample occu-		
	pations within this pathway include: legal office manager, legal		
	assistant, legal secretary, paralegal, court administrator, compliance		
	analyst, regulatory analyst.	CTA DUC	
	Medical Management and Support Based on a sequence of courses, students will be prepared for ca-	CTA, BUS, TEC	
	reers which facilitate medical business operations, through a variety	TEC	
	of management and administrative duties. Employees in this field		
140320	are found in medical offices, hospitals, and insurance companies.		
1.0320			
	claims processor, and medical coding specialist.		
140320	Sample occupations within this pathway include: admissions specialists, benefits coordinators, medical billing specialists, medical records and health information technician, medical office manager,		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	<b>Business Management</b>	CTA, BUS,	_
	Based on a sequence of courses, students will be able to plan, or-	TEC	
	ganize, direct, and evaluate all or part of a business organization		
	(including their own) through the allocation and use of financial,		
	human and material resources. Activities in which they are engaged		
140800	include project management, business analysis, quality control,		
140800	scheduling, procurement and warehousing, and activities related to		
	staffing. Sample occupations within this pathway include: business		
	analyst, chief operations officer, district manager, master scheduler,		
	project manager, purchasing manager, small business manag-		
	er/owner, supervisor, human resources generalist/manager, labor		
	relations, manager, recruiter, training manager.		

**Table 22. Career Field 04: Construction Technologies Codes (17xxxx)** 

Subject	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Construction Technologies	CTA, TEC	
	Combined with specialization competencies utilizing business and		
	industry technical standards and a math, science, ELA, technology,		
170005	and business process framework, develops technical literacy in con-		
170005	struction systems leading to pathways in pre-construction and de-		
	sign, construction management, apprenticeship and specialization		
	areas (e.g., carpentry, electrical, masonry, environmental control		
	technologies, etc.) and post-secondary articulation.	CT A TEC	
	Environmental Control Technologies	CTA, TEC	
170100	Utilizes industry standards and a math, science, ELA and technolo-		
170100	gy framework to introduce concepts of installation, repair and		
	maintenance of residential, commercial, and industrial air-		
	conditioning systems.  Carpentry	CTA, TEC	
	Utilizes industry standards and a math, science, ELA and technolo-	CIA, IEC	
171001	gy framework to introduce concepts of layout, construction and re-		
	pair of residential and commercial structures.		
	Electrical Trades	CTA, TEC	
	Utilizes industry standards and a math, science, ELA and technolo-	, , , , , , ,	
171002	gy framework to introduce concepts of layout, assembly, installa-		
	tion, testing, and maintenance of electrical fixtures and apparatus,		
	and the wiring used in electrical systems.		
	Heavy Equipment (Construction)	CTA, TEC	
171003	Classroom and practical work experiences concerned with the oper-		
1/1003	ation, maintenance and repair of heavy-duty construction equipment		
	and the gasoline or diesel engines powering the equipment.		

•	Description	Suggested	<b>Core Subject</b>
Code		Subject Area for	Area (for
		Area for Credit	HQT)
	Brick, Block and Cement Masonry	CTA	
171004	Utilizes industry standards and a math, science, ELA and technolo-		
1/1004	gy framework to introduce concepts of cutting, chipping and fixing		
	in position of brick and concrete block.		
	Interior Design Applications	CTA	<del></del>
171005	Utilizes industry standards and a math, science, ELA and technolo-		
171005	gy framework to introduce concepts of the interior construction in-		
	dustry; including painting, wallpapering, flooring, tiling, drywall, trim, lighting and more.		
	Plumbing and Pipefitting	CTA, TEC	
	Utilizes industry standards and a math, science, ELA and technolo-	CIM, IEC	
171007	gy framework to introduce concepts of layout, assembly, installa-		
	tion, alteration and repair of piping systems and related fixtures and		
	fittings.		
	Building and Property Maintenance	CTA, TEC	
	Utilizes industry standards and a math, science, ELA and technolo-		
171011	gy framework to introduce concepts of the physical structure of an		
	office building, factory, apartment building, house, or similar struc-		
	ture in good repair.		
	Building Technology	CTA, TEC	<del></del>
171017	Utilizing industry standards and a math, science, ELA and a tech-		
171017	nology framework introduces concepts across multiple areas of con-		
	struction. Areas include carpentry, electrical trades, masonry, and plumbing and related technical topics.		
	Custodial Services	CTA	
	Utilizes industry standards and a math, science, ELA and technolo-	CIA	<del></del>
171100	gy framework to introduce concepts of layout, assembly, installa-		
1,1100	tion, testing, and maintenance of electrical fixtures and apparatus,		
	and the wiring used in electrical systems.		
	Construction – Design-Build	CTA, TEC	_
171805	Utilizes industry standards and a math, science, ELA and technolo-		
171003	gy framework to introduce concepts of designing, planning, manag-		
	ing, building and maintaining the built environment.		
	Construction – Management	CTA, TEC	<del></del>
	Classroom and laboratory experiences combining advanced aca-		
171806	demics and the skills and knowledge essential to the construction		
	industry. Focus is on supervision, planning and management of the		
	construction process. The program will follow the state TCP and culminate in an associate degree.		
	Wood Product Technologies	CTA, TEC	
	Utilizing business and industry, math, science and technology	CIM, IEC	
	standards, introduces concepts of wood product materials and tech-		
173601	nologies; design and production of window frames, molding, trims		
	and panels; and wood crafting skills including the design and manu-		
	facture of wood products such as furniture, moldings, trims, fixtures		
	and cabinetry.		

Table 23. Career Field 05: Education & Training Codes (35xxxx)

Subject	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Introduction to Education and Training	CTA	
350001	Provides options for students to explore Education and Training		
	career field to allow students to pursue the career pathways.		
	Teaching Professions	CTA	
350011	Major career courses to prepare students for entry level, technical		
	and professional career option within the teaching professions.		
	Early Childhood Education	CTA	
350201	Preparation for employment in childcare services, child develop-		
	ment, and early childhood education within the childcare and guid-		
	ance industries.		

Table 24. Career Field 06: Engineering & Science Technologies Codes (17xxxx)

	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Computational Science and Engineering	CTA, TEC	
	Combined with Engineering Science (subject code 171815), utilizes		
171821	business and industry technical standards and math, science and		
	technology framework to introduce concepts of the utilization of		
	mathematical formulas to serve as forecasting models across multi-		
	ple industries in a problem-based format.		
171822		CTA	_
	Combined with Engineering Science (171815), utilizes business		
	and industry technical standards and a math, science, and technolo-		
	gy framework to introduce concepts of pre-engineering related to		
	aerospace in the Project Lead The Way model and leads to post-		
	secondary articulation.		
	Power Transmission	CTA	
	Utilizing business and industry technical standards and a math, sci-		
171402	ence, ELA, technology and business process framework, develops		
171402	technical literacy in erecting and maintaining power lines and cir-		
	cuits for transmission and distribution of electrical power, and as-		
	sembling and erecting related equipment and structures.		
	Telecommunications	CTA, TEC	_
	Utilizing business and industry technical standards and a math, sci-		
171504	ence, ELA, technology and business process framework, develops		
	technical literacy in the assembly, installation, operation, mainte-		
	nance and repair of telecommunications equipment.		

Subject	Description	Suggested	Core Subject
Code	•	Subject	Area (for
		Area for	HQT)
		Credit	
	Engineering Science	CTA, TEC	
	Utilizing business and industry standards and a pre-		
	calculus/trigonometry, science and technology framework introduces pre-engineering skills, problem-solving and critical		
171815	thinking in the areas of introduction to engineering, principles of		
	engineering, digital electronics, and engineering design and		
	development in the Project Lead the Way model and leads to post-		
	secondary articulation.		
	Computer Integrated Manufacturing	CTA, TEC	
	Combined with Engineering Science (171815), utilizes business		
171816	and industry technical standards and a math, science, and technolo-		
	gy framework to introduce concepts of pre-engineering related to		
	robotic manufacturing in the Project Lead the Way model and leads		
	to post-secondary articulation.  Civil Engineering and Architecture	CTA, TEC	
	Combined with Engineering Science (171815), utilizes business	CIM, ILC	
1-101-	and industry technical standards and a math, science, and technolo-		
171817	gy framework to introduce concepts of pre-engineering related to		
	civil engineering and architecture in the Project Lead the Way		
	model and leads to post-secondary articulation.		
	Fuel Cell Technologies	CTA, TEC	
	Combined with Engineering Technologies – Emerging (subject		
171010	code 171815), utilizes business and industry technical standards		
171818	and a math, science, and technology framework to introduce con-		
	cepts of pre-engineering related to fuel cell types, materials, function, and design in the Project Lead the Way model and leads to		
	post-secondary articulation.		
	Materials Joining Technologies	CTA, TEC	
	Combined with Engineering Technologies - Emerging (subject		
	code 171815), utilizes industry technical standards and a math, sci-		
171819			
	engineering related to robotics, material science and nanofabrica-		
	tion in welding in the Project Lead the Way model and leads to post-secondary articulation.		
	Biomedical Science	CTA	
	Utilizing business and industry, mathematics, science and technol-		
175000	ogy standards, introduces concepts of biomedical science including		
175000	principles of the biomedical sciences, human body systems, medi-		
	cal interventions, and science research. This is a Project Lead the		
	Way program only.		
	Engineering Systems	CTA, TEC	
	Combined with specialization competencies utilizing business and industry technical standards and a math, science, ELA, technology		
170007	industry technical standards and a math, science, ELA, technology and business process framework, develops technical literacy in en-		
	gineering and science leading to pathways in the engineering and		
	science career field.		
	Fig. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	1	I

•	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Energy Science	CTA, TEC	
171 600	Utilizing industry standards and a math, science, ELA and a tech-		
171600	nology framework introduces concepts of solar, wind, fossil fuel,		
	nuclear, geothermal, biomass, and fuel cell energy and leads to		
	post-secondary.	CT 1 TT C	
	Engineering Technology	CTA, TEC	<del></del>
	Combined with the first course in the pathway and utilizing busi-		
171810	ness and industry technical standards and a math, science, ELA,		
	technology framework, introduces concepts of engineering related		
	to mechanical, electrical and industrial engineering and leads to		
	post-secondary education.		
	Biotechnical Engineering	CTA, TEC	
	Combined with Engineering Science (subject code 171815), utilizes		
171820	business and industry technical standards and a math, science, and		
	technology framework to introduce concepts of biotechnical engi-		
	neering, genomics, bioprocesses, agricultural, environmental, and		
	biomedical science in a problem-based format.	GT . TT G	
	Engineering Design and Development	CTA, TEC	_
	Combined with Engineering Science (subject code 171815) and an		
171825	elective Project Lead the Way Course introduces concepts of for-		
	mal research and design in the construction of a solution to an engi-		
	neering or societal problem.		

Table 25. Career Field 07: Finance Codes (14xxxx)

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Finance Career Field Course	CTA, BUS	
	This career field specialization course is based upon the Finance		
140025	CFTCS and includes content that crosses all pathways of the career		
	field. It is the basics course that leads to specialization in one of the		
	career pathways of Accounting or Financial Services.		
	Accounting (Career Technical)	CTA, BUS	
	Prepares students for careers that record, classify, summarize, ana-		
	lyze and communicate a business's financial information and busi-		
	ness transactions. Accounting includes such activities as		
140100	bookkeeping, systems design, and analysis and interpretation of		
	accounting information. Sample occupations include: certified pub-		
	lic accounting (CPA), auditor, financial accountant, accounting		
	clerk, treasurer, bookkeeper, forensic accountant, and international		
	accountant.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Financial Services	CTA, BUS	—
	Prepares students for careers in banking, securities and investments,		
	and insurance. Activities include accepting deposits, lending funds		
140110	and extending credit, banking services, investments, mortgages and		
140110	loans, investments, real estate, and insurance. Sample occupations		
	include: loan officer, branch manager, investment banker, financial		
	planner, bank teller, personal financial advisor, real estate broker,		
	and credit analyst.		

#### Table 26. Career Field 08: Government and Public Administration Codes (360230)

Subject	Description	Suggested	Core Subject
Code		Subject Area for	Area (for HQT)
		Credit	11(1)
	Government and Public Administration	CTA	_
360230	Students will focus on those careers that are inherent to govern-		
	ment, as well as other career fields that are utilized in a government		
	and public administration context.		

Table 27. Career Field 09: Health Science Codes (07xxxx)

•	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Health Science	CTA	
	Utilizing business and industry technical standards and a math, sci-		
	ence, ELA, technology, and business process framework combined		
	with specialized competencies develops technical literacy in the		
070005	Health Science Career Field leading to pathways in Clinical		
070003	Healthcare Services, Health Information Management, Health Sup-		
	port Services and Bioscience Research & Development and spe-		
	cialization areas (e.g. physical therapy, dental assisting, medical		
	assisting, nursing, radiology, surgical technology, etc.) with post-		
	secondary articulation.		
	Dental Assistant	CTA	_
	Utilizing business and industry technical standards, math, science,		
070101	ELA, social studies and technology with a business process frame-		
070101	work, instruction includes concepts, subject matter and laboratory		
	experience to assist the dentist in the dental operatory, clerical		
	functions, and selected dental laboratory work.		
	Dental Laboratory Technology	CTA	
	Utilizing business and industry technical standards, math, science,		
070103			
	work, introduces subject matter and experiences in producing re-		
	storative appliances authorized by a dentist.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Medical Laboratory Technology	CTA	
	Utilizing business and industry technical standards, math, science,		
070203	ELA, social studies and technology with a business process frame-		
070203	work, introduces concepts, subject matter and experiences to per-		
	form diagnostic analytic laboratory tests including phlebotomy		
	techniques.	CTT A	
	Phlebotomy	CTA	<del></del>
070204	Utilizing business and industry technical standards, math, science,		
070204	ELA, social studies and technology with a business process frame-		
	work, introduces subject matter and experiences to lead to a recognized, portable gradential as a certified phlobotomist		
	nized, portable credential as a certified phlebotomist.  Practical Nursing	CTA	
	Utilizing business and industry technical standards, math, science,	CIA	
	ELA, social studies and technology with a business process frame-		
070302	work, instruction includes subject matter and supervised clinical		
	experiences to provide direct nursing care under the supervision of		
	a registered nurse, licensed physician, dentist, or chiropractor.		
	Nurse Assisting	CTA	
	Utilizing business and industry technical standards, math, science,		
070303	ELA, social studies and technology with a business process frame-		
	work, introduces concepts, subject matter and clinical experiences		
	in the care of individuals under the supervision of a nurse.		
	Surgical Technology	CTA	—
	Utilizing business and industry technical standards, math, science,		
070305	ELA, social studies and technology with a business process frame-		
	work, introduces concepts, subject matter and experiences as a gen-		
	eral assistant on the surgical team in the operating suite.	GT A	
	Home Health	CTA	<del></del>
	Utilizing business and industry technical standards, math, science,		
070307	ELA, social studies and technology with a business process framework, introduces concepts, subject matter and experiences to assist		
	elderly, convalescent, or handicapped in their homes for daily liv-		
	ing needs.		
	Exercise Science/Sports & Recreation Healthcare	CTA	
	Utilizing business and industry technical standards and math, sci-	CIA	
	ence, ELA, and technology framework, in the study of organ sys-		
0=0.115	tems, study of movement & associated functional response and		
070410	adaptations, understand scientific basis underlying exercise-		
	induced physiological responses in athletic training, biomechanics,		
	exercise physiology and nutrition for the prevention, diagnosis and		
	treatment of injuries.		

Subject Code	Description	Suggested Subject Area for Credit	Core Subject Area (for HQT)
070603	Optometric Occupations Utilizing business and industry technical standards, math, science, ELA, social studies and technology with a business process framework, instruction includes concepts, subject matter and experience to prepare, assemble, and/or fit corrective lenses prescribed by a physician, optometrist or optician.	CTA	_
070904	Medical Assistant Utilizing business and industry technical standards, math, science, ELA, social studies and technology with a business process framework, instruction includes concepts, subject matter and experience to perform functions and procedures concerned with the diagnosis and treatment of patients under the supervision of a physician.	CTA	_
070906	Community Health Aide Utilizing business and industry technical standards, math, science, ELA, social studies and technology with a business process frame- work, instruction includes concepts, subject matter and experience to serve as a liaison between professional health workers and the recipients of health services.	СТА	
070912	Pharmacy Technician Utilizing business and industry technical standards, math, science, ELA, social studies and technology with a business process framework, instruction includes concepts, subject matter and experiences to work in a pharmacy under the supervision of a pharmacist.	CTA	
070913	Health Unit Coordinator Utilizing business and industry technical standards, math, science, ELA, social studies and technology with a business process framework, introduces concepts, subject matter and experiences to manage components of non-patient care activities in health care facilities.	CTA	
071100	Clinical Health Care Services Combined with specialized competencies and utilizing business and industry technical standards with a math, science, ELA, social studies and technology framework involved in changing the health status of a patient/client over time through performance of tests or evaluations to identify the presence or absence of illness or injury that creates a picture of the health status of an individual at a single point of time.	CTA	
070994	Patient Care Technician Utilizing business and industry technical standards, math, science, ELA, social studies and technology with a business process frame- work, introduces concepts, subject matter and experiences to per- form clinical skills such as blood collection, EKGs, catheterization, recording vital signs and patient treatments, and other tasks related to patient care in a variety of healthcare environments under the direct supervision of a registered nurse or other medical profession- als.	CTA	

Subject	Description	Suggested	<b>Core Subject</b>
Code	•	Subject	Area (for
		Area for	HQT)
		Credit	
	Diagnostic Pathway	CTA, TEC	—
	A clustered program utilizing business and industry technical		
	standards, math, science, ELA, social studies and technology with a		
074820	business process framework, instruction includes concepts, subject		
	matter and experiences in health careers that focus on diagnostic		
	procedures to determine status of body functions/systems, cause		
	and nature of diseases and disorders.		
	Therapeutic Pathway	CTA	
	A clustered program utilizing business and industry technical		
	standards, math, science, ELA, social studies and technology with a		
074830	business process framework, instruction includes concepts, subject		
	matter and experiences in health careers that focus on care and		
	treatment of individuals for the promotion and maintenance of		
	wellness; prevention and treatment of physical, mental and emo-		
	tional disorders.	CTA	
	Health Support Pathway Utilizing business and industry technical standards, math, science,	CIA	<del></del>
	ELA, social studies and technology with a business process frame-		
074840	work, introduces concepts, subject matter and experiences for		
074040	health support services careers, including operation, resource man-		
	agement, esthetics and aseptic procedures of the physical plant to		
	ensure a healthy and well equipped environment in healthcare.		
	Biotechnology	CTA, TEC	
	Utilizing business and industry technical standards, math, science,	0111, 120	
	ELA, social studies and technology with a business process frame-		
074050	work, introduces concepts and subject matter in classroom and la-		
074850	boratory experiences in the bioprocesses of organisms, cells or their		
	components to create products or solve problems. Program concen-		
	trates on biomedical, environmental, pharmaceutical, bioinformat-		
	ics and bioethics.		
	Health Information Management Services	CTA, TEC	_
	A clustered program utilizing business and industry technical		
	standards, math, science, ELA, social studies and technology with a		
074890	business process framework, introduces concepts, subject matter		
	and experiences for health careers that focus on compilation,		
	maintenance and retrieval of records, reports and statistical data on		
	health services.		

Table 28. Career Field 10: Hospitality & Tourism Codes (33xxxx)

Subject	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	

Subject Code	Description	Suggested Subject Area for Credit	Core Subject Area (for HQT)
330005	Culinary and Food Service Operations Educational programs in Culinary and Food Service Operations prepare learners for careers in the art and science of food prepara- tion and presentation.	CTA	_
330010	<b>Lodging</b> Preparation for careers in the management, marketing and operations of lodging facilities.	CTA, BUS	
330015	Introduction to Hospitality and Tourism  Preparation for careers requiring broad, cross-functional knowledge of marketing, management and operations of restaurants, and other food services, lodging, destination marketing organizations, attractions, meetings and events, transportation and travel-related services.	CTA, BUS	_
330020	Travel and Tourism  Educational programs in travel and tourism prepare learners for careers in management, marketing and operation of destination marketing organizations, attractions, meetings and events, transportation, and travel related services.	CTA, BUS	_

Table 29. Career Field 11: Human Services Codes (17xxxx, 99xxxx)

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Human Services	CTA	_
	Utilizing business and industry technical standards, math, science,		
172600	ELA, social studies and technology with a business process frame-		
	work, introduces concepts in Human Services leading to pathways		
	in Family & Community Services or Personal Care Services.		
	Family and Community Services	CTA	—
	Utilizing business and industry technical standards, math, science,		
	ELA, social studies and technology with a business process frame-		
172605	work, introduces concepts in the Family and Community Services		
	Pathway such as unemployment, substance abuse, aging and physi-		
	cal, emotional and cognitive disabilities, domestic violence, physi-		
	cal/emotional abuse, poverty and community resources.		
	Cosmetology	CTA	
172602	Utilizing business and industry technical standards, math, science,		
	work, instruction includes variety of beauty treatments including		
	care and beautification of the hair, complexion, hands and feet.		

•	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Barbering	CTA	_
	Utilizing business and industry technical standards, math, science,		
172601	ELA, social studies and technology with a business process frame-		
172001	work, instruction and clinical experiences includes haircutting and		
	styling, shaving and massaging with emphasis on hygiene, skin and		
	scalp diseases, and sterilization of instruments and utensils.		
	Vocational Job Training Coordinating	CTA	_
	A specialized community based job training program for students		
	with disabilities who are unable to successfully participate in regu-		
	lar career-technical education programs even when adjusted pro-		
	grams and supplemental aides or specialized supportive personnel		
990371	are available. The program utilizes a job training coordinator to		
	match specific jobs in the community to the individual student's		
	skills. Job coach services must be made available to assist the stu-		
	dents to gain the skills necessary for the job. Students must be at		
	least sixteen years old and this program must be identified on the		
	student's individualized educational program (IEP).		

**Table 30. Career Field 12: Information Technology Codes (14xxxx)** 

	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Information Technology I (Career Technical)	CTA, BUS,	
	This course is designed to serve as the first course in a Career-	TEC	
	Technical program in information technology. Based on infor-		
	mation technology basics (9th and 10th grade competencies) and		
140200	other fundamental skills drawn from it WORKS.OHIO, the Ohio		
	Career Field Technical Content Standards for Information Technol-		
	ogy, this course must lead to a specialized program in Information		
	Support and Services, Network Systems, Programming and Soft-		
	ware Development or Interactive Media.		
	Information Support and Services (Career Technical)	CTA, BUS,	_
140210	An instructional program that provides training for careers dealing	TEC	
140210	in information technology deployment and information systems		
	management and support.		
	Network Systems (Career Technical)	CTA, BUS,	_
140220	An instructional program that provides training for careers in com-	TEC	
140220	munication network systems planning, administration, and man-		
	agement.		
	Programming and Software Development (Career Technical)		_
140230	An instructional program that provides training for careers dealing	TEC	
140230	with hardware and software programming to design, develop, and		
	implement computer systems and software.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Interactive Media (Career Technical)	CTA, BUS,	_
	An instructional program that provides training in the area of inter-	TEC	
140240	active multi-media development that includes creating, designing,		
	and producing interactive multimedia products and services and		
	digitally-generated or computer-enhanced media.		

Table 31. Career Field 13: Law & Public Safety Codes (17xxxx)

	Description Law & Public Safety Codes (1/xxxx)	Suggested	<b>Core Subject</b>
Code	2 0001-p1001	Subject	Area (for
		Area for	HQT)
		Credit	<b>C</b> /
	Fire Fighter Training	CTA	_
	Utilizing business and industry, math, science and technology		
172801	standards, provides concept of paid, full-time firefighter. The train-		
172001	ing program must be chartered through the Ohio Department of		
	Public Safety or have an agreement with a chartered fire fighter		
	training program.		
	Criminal Justice	CTA	
	Utilizing business and industry, math, science and technology		
172802	standards, introduces concept of training provided by officially des-		
	ignated law enforcement agencies. The program must be certified		
	by the Ohio Peace Officers Training Commission.		
	Private Security	CTA	
172808	A one-year program utilizing business and industry, math, science		
	and technology standards, introduces concept of physical and per-		
	sonal security, internal loss and facility access.	CITE A	
	Career Paths for the Law Profession	CTA	
172010	Utilizing business and industry, math, science and technology		
172810	standards, introduces knowledge and skills to prepare students for		
	entry level, technical and professional career options within the law		
	and public administration professions.  Emergency Medical Technician – Secondary	CTA	
	Utilizing business and industry, math, science and technology	CIA	
	standards, instructs to the level of EMT-Basic. This course must		
172811	include the Ohio Department of Public Safety approved EMT-Basic		
172011	curriculum and be provided through an accredited ODPS provider.		
	This course is a minimum of 450 hours with the ODPS curriculum		
	limited to the senior level.		
	Public Safety – Core	CTA	_
	Utilizing business and industry, math, science and technology		
170010	standards, introduces concept of knowledge and skills applicable to		
172812	public safety careers, e.g., Firefighter, EMT-Basic, and Criminal		
	Justice. This course is to be taught only in conjunction with an ap-		
	proved senior level specialized public safety program.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Criminal Science Technology	CTA	
	Utilizing business and industry standards as framework for applica-		
	tion of clinical and criminal laboratory science, evidentiary testing		
172815	& analysis, study of society's formal control system, investigative		
	techniques, criminal law, criminal process, administration of Justice		
	System, computer applications, record-keeping, and reconstruction		
	techniques.		

Table 32. Career Field 14: Manufacturing Technologies Codes (17xxxx)

	Table 32. Career Field 14: Manufacturing Technologies Codes (1/xxxx)			
•	Description	Suggested	Core Subject	
Code		Subject	Area (for	
		Area for	HQT)	
		Credit		
	Automation & Robotics	CTA		
	Utilizing business and Industry, math, English, science and tech-			
170370	nology standards, introduces concepts of Automation and Robotics			
170370	technologies: Computer Numerical Control (CNC), Data Acquisi-			
	tion and Analysis, Electrical/Electronic controls, Fluid Power, Ro-			
	botics and Programmable Logic Controllers (PLC).			
	Manufacturing Technologies	CTA, TEC		
	Combined with specialization competencies utilizing business and			
	industry technical standards and a math, science, ELA, technology,			
170006	and business process framework, develops technical literacy in			
	manufacturing systems, leading to pathways in manufacturing op-			
	erations, product design and material production and post-			
	secondary articulation.			
	Integrated Systems Technology	CTA		
171012	Utilizing business and industry, math, science and technology			
1/1012	standards, introduces concept of the maintenance of machinery and			
	mechanical equipment of an industrial plant or factory.			
	Manufacturing Design and Development	CTA, TEC		
	Utilizing business and industry, math, English, science and technol-			
171300	ogy standards, introduces concepts of Design and Development			
1/1300	Technologies: Design Process, Teamwork and Project Manage-			
	ment, Marketing, Technical Applications, Modeling, Materials and			
	Quality Assurance.			
	Electronics	CTA, TEC		
171503	Utilizing business and industry, math, science, and technology			
	standards, introduces concepts of electronic theory and practice.			
	Precision Machining	CTA, TEC		
172302	Utilizing business and industry, math, science, and technology			
1/2302	standards, introduces concepts related to set-up and operation; and			
	the control of various metal working equipment.			

Subject	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Welding and Cutting	CTA, TEC	
172306	Utilizing business and industry, math, science, and technology		
	standards, introduces concepts of metal welding, brazing and flame		
	cutting.		

Table 33. Career Field 15: Marketing Codes (04xxxx)

	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Introduction to Marketing	CTA, BUS	_
	Broad preparation for careers that help identify and understand tar-		
040805	get audience needs and wants, generate demand, or get a good, ser-		
040003	vice or idea to that audience. This can be the first course for all		
	marketing, business administration or hospitality and tourism path-		
	ways.		
	Marketing Management	CTA, BUS	
	Educational programs in marketing management prepare learners		
040010	for careers requiring broad, cross-functional knowledge of market-		
040810			
	agement, marketing-information management, pricing, product/service management, marketing communications, and sell-		
	ing.		
	Marketing Communications	CTA, BUS	
0.4004.7	Preparation for careers that inform, remind, and/or persuade a target	0111, 200	
040815	audience including advertising, public relations, and multimedia		
	marketing communications.		
	Supply Chain Management	CTA, BUS	_
041900	Preparation for the strategic operation and management of market-		
041700	ing systems with emphasis on logistics components, including pur-		
	chasing and warehousing.		
	Leadership	CTA, BUS	<del></del>
	Introductory, project-based course that develops student under-		
042010	standing and skills in such areas as communications, emotional in-		
	telligence, self-management, operations and professional		
	development. This is a recommended first course for the High		
	School of Business pathway.	CTA, BUS	
	Wealth Management Project-based course that develops student understanding and skills	CIA, BUS	<del></del>
042015	in such areas as economic decision-making, time value of money,		
072013	financial management and types of investment. This is a recom-		
	mended second course for the High School of Business pathway.		
	mended second course for the ringh behoof of Business pullway.	l	

Subject	Description	Suggested	<b>Core Subject</b>
Code	•	Subject	Area (for
		Area for	HQT)
		Credit	
	Principles of Business	CTA, BUS	
	Project-based course that develops student understanding and skills		
042020	in such areas as business law, economics, financial analysis, human		
042020	resources management, marketing, operations, information man-		
	agement, and strategic management. This is the recommended third		
	course for the High School of Business pathway.		
	Principles of Economics	CTA, BUS	_
	Introductory, project-based course that develops student under-		
042025	standing and skills in such areas as consumer spending, government		
012023	politics, economic conditions, legal issues, and global competition.		
	This is the recommended fourth course for the High School of		
	Business pathway.	CT . D.110	
	Principles of Marketing	CTA, BUS	_
	Introductory, project-based course that develops student under-		
0.42020	standing and skills in the functional areas of marketing including		
042030	channel management, marketing information-management, market-		
	ing planning, pricing, product/service management, promotion and		
	selling. This is a recommended fifth course for the High School of Business pathway.		
		CTA, BUS	
	<b>Principles of Finance</b> Project-based course that develops student understanding and skills	CIA, BUS	
	in such areas as accounting and finance including financial state-		
042035			
042033	trols, budgets and corporate financial data analysis. This is the		
	recommended sixth course for the High School of Business path-		
	way.		
	Principles of Management	CTA, BUS	
	Project-based course that develops student understanding and skills	, , , , , ,	
	in all areas of management including project management, human		
042040			
	ment, risk management and legal and ethical issues in management.		
	This is the recommended seventh course for the High School of		
	Business pathway.		
	<b>Business Strategies</b>	CTA, BUS	
042045	Capstone course that requires extensive student decision-making to		
	them into a business plan. This is the recommended final course for		
	the High School of Business pathway.		
	Entrepreneurship	CTA, BUS	
044110	Preparation for starting new ventures that create, power and		
310	change business activity – meaning new markets, new products,		
	new production methods and new businesses.		

Subject	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Introduction to Entrepreneurship	CTA, BUS	
	Preparation for the early business stages of starting new ven-		
044100	tures that create, power and change business activity - meaning		
	new markets, new products, new production methods and new		
	businesses.		

**Table 34. Career Field 16: Transportation Systems Codes (17xxxx)** 

	Career Field 16: Transportation Systems Codes (1/xxxx)	Cuggastad	Cana Subject
Code	Description	Suggested Subject	Core Subject Area (for
Code		Area for	HQT)
		Credit	nQ1)
	Transportation Systems	CTA	
	Combined with specialization competencies utilizing business and	CIA	_
	industry technical standards and math, science, ELA, technology,		
170350	and business process framework, develops technical literacy in		
	transportation systems, leading to pathways in ground and air trans-		
	portation and post-secondary articulation.		
	Auto Collision Repair	CTA, TEC	
	Specialized learning experiences concerned with all phases of the	CIA, ILC	_
170301	repair of damaged vehicle bodies and frames. Areas of Instruction		
170301	may include: Paint and Refinishing, Mechanical/Electrical Repair,		
	Structural and Non-Structural Repair.		
	Auto Technology	CTA, TEC	
	Learning experiences involving the service and repair of the me-	CIA, ILC	_
170302	chanical components of the vehicle. The focus of the program will		
170302	be in the ASE areas of Electrical/Electronic Systems, and Suspen-		
	sion and Steering, Brakes and Engine Performance.		
	Auto Specialization	CTA, TEC	_
	Specialized learning experiences that involve more intensive train-	, , , , , ,	
170303			
	tive Detailing, Custom Car Prep, High Performance, Alternative		
	Fuel, Engine Repair, Transmission Service.		
	Aviation Occupations	CTA, TEC	_
	Classroom and practical experiences that include instruction relat-		
170400	ing to aircraft maintenance, operation, and ground support. Instruc-		
	tor and program must be certified by the Federal Aviation		
	Administration (FAA).		
	Aircraft Maintenance	CTA, TEC	
	This is the official FAA – Aviation Maintenance Air Frame and		
170401	Powerplant Course. 1800 hour program. Instructor and program		
	must be certified by the Federal Aviation Administration (FAA) in		
	airframe and power plant.		
	<b>Ground Operations</b>	CTA, TEC	_
170403	This program is geared toward the Airport Environment and activi-		
170403	ties concerning the ground support of commercial aircraft, terminal		
	and hanger activities.		

Subject Code	Description	Suggested Subject Area for	Core Subject Area (for HQT)
		Credit	
	Maritime Occupations	CTA	
170801	Utilizing rigorous academics and Maritime industry standards in-		
170001	troduce concepts of deck, engineering and other careers in the mari-		
	time industry.		
	Medium/Heavy Truck Technician	CTA, TEC	
	This program focuses on the service and repair of trucks. Instruc-		
171200	tion includes the diagnosis, maintenance and repair of diesel en-		
171200	gines operational systems. ASE areas of concentration are: Diesel		
	Engines, Suspension and Steering, Brakes, Electrical/Electronic		
	Systems and Preventive Maintenance Inspection.		
	Power Equipment Technology	CTA, TEC	
	Training in this program focuses on 2 and 4 cycle gasoline powered		
173100	engines and their use in outdoor power and recreational equipment.		
	This includes the basic service and preventative maintenance of		
	equipment.		

### Career Based Intervention Section

Table 35. Career Based Intervention (CBI) Codes (25xxxx)

Subject Code	Description	Suggested Subject Area for	Core Subject Area (for HQT)
	CDI Language Auto	Credit	Longuaga
250510	CBI Language Arts Content based on academic content standards; for CBI students facing academic barriers. (These courses are always reported in EMIS with "Curriculum Element "V3".)	ENG	Language Arts
250519	CBI Reading Content based on academic content standards; for CBI students facing academic barriers. (These courses are always reported in EMIS with "Curriculum Element "V3".)	ENG	Reading
251110	CBI Mathematics Content based on academic content standards; for CBI students facing academic barriers. (These courses are always reported in EMIS with "Curriculum Element "V3".)	MTH	Mathematics
251310	CBI Science Content based on academic content standards; for CBI students facing academic barriers. (These courses are always reported in EMIS with "Curriculum Element "V3".)	SCI	Science
251510	CBI Social Studies Content based on academic content standards; for CBI students facing academic barriers. (These courses are always reported in EMIS with "Curriculum Element "V3".)	SOC	

Subject	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Career Based Intervention	CTA	
	CBI programs are designed for students ages 12 through 21 in		
	grades 7 through 12 who are identified as disadvantaged (either		
	academically or economically or both) and who have barriers to		
252525	achieving academic and career success. The goals of the program		
	are to help students improve academic competence, graduate from		
	high school, develop employability skills, implement a career plan		
	and participate in a career pathway in preparation for postsecondary		
	education and/or careers.		

### Career Development Section

**Table 36. Career Development Codes (99xxxx)** 

	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
990361	Entrepreneurship (Career Technical)	CTA	
990301	Exploring owning your own business.		
	<b>Employability Skills (Career Technical)</b>	CTA	
990362	Work related skills for entering, competing and advancing in a		
	changing work world.		

# Family and Consumer Sciences (Career Technical) Section

Table 37. Family and Consumer Sciences Codes (09xxxx)

•	Description	Suggested	Core Subject
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	GRADS – Minimum Intervention/Follow-up	CTA	
	Graduation, Reality and Dual-role Skills (GRADS) is an instruc-		
	tional and intervention program for pregnant and parenting stu-		
	dents, male and female. An in-school instructional program for		
	pregnant and parenting students, grades 7-12. The mission is to		
090192	promote personal growth, educational competence, and economic		
	self-sufficiency as socially responsible members of society. The		
	objectives are for the student to remain in school, have healthy		
	pregnancies and healthy babies, learn practical parenting and child-		
	development skills, gain orientation to work, set goals toward bal-		
	ancing work and family, and delay subsequent pregnancies.		

Subject	Description	Suggested	<b>Core Subject</b>
Code	•	Subject	Area (for
		Area for	HQT)
		Credit	
	GRADS – Alternative Structure	CTA	
	Graduation, Reality and Dual-role Skills (GRADS) is an instruc-		
	tional and intervention program for pregnant and parenting stu-		
	dents, male and female. An in-school instructional program for		
	pregnant and parenting students, grades 7-12. The mission is to		
090193	promote personal growth, educational competence, and economic		
	self-sufficiency as socially responsible members of society. The		
	objectives are for the student to remain in school, have healthy		
	pregnancies and healthy babies, learn practical parenting and child-		
	development skills, gain orientation to work, set goals toward bal-		
	ancing work and family, and delay subsequent pregnancies.	CTT A	
	GRADS – Class Structure	CTA	_
	Graduation, Reality and Dual-role Skills (GRADS) is an instruc-		
	tional and intervention program for pregnant and parenting stu-		
	dents, male and female. An in-school instructional program for		
000104	pregnant and parenting students, grades 7-12. The mission is to		
090194	promote personal growth, educational competence, and economic		
	self-sufficiency as socially responsible members of society. The		
	objectives are for the student to remain in school, have healthy		
	pregnancies and healthy babies, learn practical parenting and child-		
	development skills, gain orientation to work, set goals toward balancing work and family, and delay subsequent pregnancies.		
	Consumer and Financial Literacy		
	Students will learn how to manage money, set goals, understand	<del></del>	
090700	• •		
070700	and make financial decisions based on the impact of advertising and		
	practice good consumer responsibilities.		
	Child Development	CTA	
	Provide students with knowledge of how parents and child care		
091025	providers meet the needs of infants and young children to provide		
071020	for healthy growth and development. Prominent theories of child		
	psychology will be studied.		
	Financial Management I	CTA	
	Course provides students with an understanding of the concepts and		
	principles involved in managing one's personal finances. Topics		
091050	may include savings and investing, credit, insurance, taxes and so-		
	cial security, spending patterns and budget planning, contracts, and		
	consumer protection. These courses may also provide an overview		
	of the American economy.		
	Financial Management II	CTA	
	Course helps students evaluate resources, financial institutions and		
091051	services that meet individual, family and business goals, protect		
	financial health including credit and debit, prevent loss of assets,		
	and advocate public policy issues that impact financial well-being.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for Credit	HQT)
	Career Search I	CTA	
	Update IACP plans, practice job skills, and interpret career and		
	workplace issues. Demonstrate how academic achievement influ-		
091400	ences personal and career growth, conflict resolution techniques		
	and apply social skills that lead to effective school, career and fami-		
	ly relationships that lead to a healthy, caring and responsible citi-		
	Zen.  Comon Sconch II (Includes Menterchin)	СТА	
	Career Search II (Includes Mentorship) Areas of study would include assessing career plans, managing job	CIA	<del></del>
091401	searches, and examining career and workplace issues, develop es-		
071401	sential interpersonal skills, communication skills and workplace		
	related skills. The course has a mentorship experience attached.		
	Transitions and Careers		
091410	Students develop personal assets of a healthy, responsible citizen		
071410	and family member who are responsible for their academic, career		
	and personal growth.		
	Healthy Food – Middle School		<del></del>
000050	Provide students with the knowledge to evaluate good food choices		
090050	and develop a plan for maintaining healthy weight. Demonstrate proper food handling, food preparation and apply safe kitchen prac-		
	tices.		
	Healthy and Safe Food	CTA	
	Develop practical problem solving that influences cultural and so-		
091077	cial factors that affect the body weight and healthy lifestyles.		
	Demonstrate safe food-handling practices related to food-borne		
	pathogens and kitchen environments.	C/T/A	
	Healthy Living  Develop provided problem solving that influences cultural and so	СТА	
	Develop practical problem solving that influences cultural and so- cial factors that affects the body weight and healthy lifestyles.		
	Demonstrate safe food-handling practices related to food-borne		
091200	pathogens and kitchen environments. Use time management strate-		
	gies, decision-making skills, peer pressure and multi-cultural		
	awareness that relate to educational, work and family goals that		
	sustain productive, meaningful lifestyles.		
	Managing Transitions	CTA	
	Assess values and resources that support lifestyle goals, effective		
	time management plans, stress management, multicultural aware-		
091300	ness that sustains a productive, meaningful lifestyle. Choose resources that meet individual, family and business financial goals,		
	credit and debt issues, techniques to prevent financial loss of assets		
	conflict resolution and public policy that impact financial well-		
	being.		

# INTERNATIONAL BACCALAUREATE COURSES SECTION

<b>Table 38</b>	Table 38. International Baccalaureate Courses for Diploma Program (32xxxx)				
Subject	Description	<b>Suggested</b>	<b>Core Subject</b>		
Code		Subject	Area (for		
		Area for	HQT)		
		Credit			
	IB Mathematics	MTH	Mathematics		
320050	Based upon the most current International Baccalaureate Program				
	curriculum.				
	IB Mathematical Studies	MTH	Mathematics		
320150	Based upon the most current International Baccalaureate Program				
	curriculum.				
	IB First Language	ENG	English		
320200	Based upon the most current International Baccalaureate Program				
	curriculum.				
	IB Second Language – Arabic	FLR	Foreign		
320250	Based upon the most current International Baccalaureate Program		Language		
	curriculum.				
	IB Second Language – Chinese	FLR	Foreign		
320300	Based upon the most current International Baccalaureate Program		Language		
	curriculum.				
	IB Second Language – Czech	FLR	Foreign		
320350	Based upon the most current International Baccalaureate Program		Language		
	curriculum.				
	IB Second Language – French	FLR	Foreign		
320400	Based upon the most current International Baccalaureate Program		Language		
	curriculum.				
	IB Second Language – German	FLR	Foreign		
320450	Based upon the most current International Baccalaureate Program		Language		
	curriculum.	ET D			
220500	IB Second Language – Hebrew	FLR	Foreign		
320500	Based upon the most current International Baccalaureate Program		Language		
	curriculum.	ELD	Familian		
320550	IB Second Language – Italian	FLR	Foreign		
320330	Based upon the most current International Baccalaureate Program curriculum.		Language		
	IB Second Language – Japanese	FLR	Foreign		
320600	Based upon the most current International Baccalaureate Program	FLK	Language		
320000	curriculum.		Language		
	IB Second Language – Polish	FLR	Foreign		
320650	Based upon the most current International Baccalaureate Program	TLK	Language		
320030	curriculum.		Language		
	IB Second Language – Russian	FLR	Foreign		
320700	Based upon the most current International Baccalaureate Program		Language		
323700	curriculum.				
	IB Second Language – Swahili	FLR	Foreign		
320750	Based upon the most current International Baccalaureate Program		Language		
	curriculum.				
		1	l .		

Subject Code	Description	Suggested Subject Area for Credit	Core Subject Area (for HQT)
320800	IB Second Language – Spanish Based upon the most current International Baccalaureate Program curriculum.	FLR	Foreign Language
320850	IB Classical Languages (Latin or Classical Greek) Based upon the most current International Baccalaureate Program curriculum.	FLR	Foreign Language
320900	IB Business and Management Based upon the most current International Baccalaureate Program curriculum.	BUS	_
320950	IB Economics Based upon the most current International Baccalaureate Program curriculum.	SOC	Economics
321000	IB Geography Based upon the most current International Baccalaureate Program curriculum.	SOC	Geography
321050	IB History Based upon the most current International Baccalaureate Program curriculum.	SOC	History
321100	IB Islamic History Based upon the most current International Baccalaureate Program curriculum.	SOC	History
321150	IB Information Technology in a Global Society (ITGS) Based upon the most current International Baccalaureate Program curriculum.	TEC	
321200	IB Philosophy Based upon the most current International Baccalaureate Program curriculum.	N/A	
321250	IB Psychology Based upon the most current International Baccalaureate Program curriculum.	SOC	_
321300	Based upon the most current International Baccalaureate Program curriculum.	SOC	
321350	Based upon the most current International Baccalaureate Program curriculum.	SCI	Science
321400	Based upon the most current International Baccalaureate Program curriculum.	SCI	Science
321450	IB Physics Based upon the most current International Baccalaureate Program curriculum.	SCI	Science
321500	Based upon the most current International Baccalaureate Program curriculum.	TEC	_

Subject Code	Description	Suggested Subject Area for Credit	Core Subject Area (for HQT)
321550	IB Environmental Systems Based upon the most current International Baccalaureate Program	SCI	Science
321330	curriculum.		
	IB Computer Science	TEC	
321600	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Visual Arts	FAR	Arts
321650	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Music	FAR	Arts
321700	Based upon the most current International Baccalaureate Program curriculum.		
	IB Theatre Arts	FAR	Arts
321750	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Theory of Knowledge	SOC	
321775	Based upon the most current International Baccalaureate Program		
	curriculum.		

**Table 39. International Baccalaureate Courses for Middle Years Program (32xxxx)** 

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject Area for	Area (for HQT)
		Credit	3.6.1
221000	IB Mathematics (Middle Years - Grades 7-8)	N/A	Mathematics
321800	Based upon the most current International Baccalaureate Program curriculum.		
	IB Mathematics (Middle Years - Grades 4-6)	N/A	Mathematics
321850	Based upon the most current International Baccalaureate Program curriculum.		
	IB Language Arts A (Middle Years - Grades 7-8)	N/A	English
321900	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Language Arts A (Middle Years - Grades 4-6)	N/A	English
321950	Based upon the most current International Baccalaureate Program curriculum.		
	IB Language Arts B (Middle Years - Grades 7-8)	N/A	English
322000	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Language Arts B (Middle Years - Grades 4-6)	N/A	English
322050	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Humanities (Middle Years - Grades 7-8)	N/A	
322100	Based upon the most current International Baccalaureate Program curriculum.		

Subject Code	Description	Suggested Subject Area for	Core Subject Area (for HQT)
	IB Humanities (Middle Years - Grades 4-6)	Credit N/A	
322150	Based upon the most current International Baccalaureate Program curriculum.	IN/A	
	IB Technology (Middle Years - Grades 7-8)	N/A	_
322200	Based upon the most current International Baccalaureate Program curriculum.		
	IB Technology (Middle Years - Grades 4-6)	N/A	_
322250			
	IB Arts (Middle Years - Grades 7-8)	N/A	Arts
322300			
	IB Arts (Middle Years - Grades 4-6)	N/A	Arts
322350	Based upon the most current International Baccalaureate Program curriculum.		
	IB Sciences (Middle Years - Grades 7-8)	N/A	Science
322400	Based upon the most current International Baccalaureate Program curriculum.		
	IB Sciences (Middle Years - Grades 4-6)	N/A	Science
322450	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Physical Education (Middle Years - Grades 7-8)	N/A	_
322500	Based upon the most current International Baccalaureate Program curriculum.		
	IB Physical Education (Middle Years - Grades 4-6)	N/A	_
322550			

## Table 40. International Baccalaureate Courses for Primary Years Program (32xxxx)

•	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	IB Mathematics (Primary Years - Grades 1-3)	N/A	Mathematics
322600	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Language (Primary Years - Grades 1-3)	N/A	English
322650	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Social Studies (Primary Years - Grades 1-3)	N/A	_
322700	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Arts (Primary Years - Grades 1-3)	N/A	Arts
322750	Based upon the most current International Baccalaureate Program		
	curriculum.		

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	IB Science & Technology (Primary Years - Grades 1-3)	N/A	Science
322800	Based upon the most current International Baccalaureate Program		
	curriculum.		
	IB Personal, Social & Physical Education (Primary Years -	N/A	_
322850	Grades 1-3)		
	Based upon the most current International Baccalaureate Program		
	curriculum.		

#### SELF-CONTAINED COURSES SECTION

**Table 41. General Education Codes (18xxxx)** 

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Preschool	NA	
180108	Preschool program in a self-contained classroom, this includes		
100100	course related to ECE, Federal Head Start, and other local pro-		
	grams.		
180280	Title I Preschool	N/A	_
100200	A preschool program funded with Title I funds.		
180050	Early Education (0-2)	N/A	_
	Courses taught to students ages 0-2.		

Table 42. Exceptional Children (for Students with Disability Conditions) Codes (19xxxx)

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Early Education of the Handicapped	N/A	_
196095	Special Education programs and related services for children below		
	six years of age.		
	Transition to Post School Readiness	N/A	—
	Specialized curriculum designed for students with disabilities 14		
199000	years of age and older that provides training for the development of		
	skills that supports the students transition to post school environ-		
	ments, including employment, postsecondary education, independ-		
	ent living, or community participation.		

Content of the following courses is based on IEP goals linked to standards, but instruction is based on substantial modification to the form and substance of the general education curriculum. Course content focuses largely on application of state standards through essential life skills that typical students generally acquire in a non-school setting. For example, content in these courses linked to language arts standards might be learning to say one's own name or expressing preferences using non-verbal responses; content in these courses linked to math standards might be learning the concept of "one."

in these courses linked to main standards might be learning the concept of one.				
	Adaptive Living Skills (K-3)	N/A	_	
196350	Basic skills for students with severe motor, sensory, or cognitive			
190330	disabilities that present unique and significant challenges to partici-			
	pation in other courses. Grades K - 3			
	Adaptive Living Skills (4-6)	N/A	_	
196360	Basic skills for students with severe motor, sensory, or cognitive			
190300	disabilities that present unique and significant challenges to partici-			
	pation in other courses. Grades 4 - 6			
	Adaptive Living Skills (7-8)	N/A		
196370	Basic skills for students with severe motor, sensory, or cognitive			
	disabilities that present unique and significant challenges to partici-			
	pation in other courses. Grades 7 - 8			

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Adaptive Living Skills (9-12)	N/A	
196380	Basic skills for students with severe motor, sensory, or cognitive		
	disabilities that present unique and significant challenges to partici-		
	pation in other courses. Grades $9 - 12$ .		

# **OTHER COURSES SECTION**

Table 43. Other Course Codes (30xxxx)

	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
-		Credit	
	purses may be included in district programs and/or graduation red	•	
	are not aligned with the academic content standards and do not repres	sent courses f	for which credit
toward n	neeting legislated graduation requirements is awarded.	T	Γ
300010	Career Exploration	ELE	
300010	Scheduled time for researching career options.		
	Community Service (Volunteer Program)	ELE	
300020	Scheduled time for volunteer service projects during or outside the		
300020	school day. Note: This course cannot earn credit per ORC		
	§3313.60.5.		
	Study Skills	ELE	
	Instruction in strategies to improve learning and develop study		
300030			
	limited coverage of new content or the academic content standards		
	for a single or multiple academic areas.		
	School Publications	ELE	
	Scheduled time for production work and related activities of school		
300040			
	yearbook. Activities not aligned with the academic content stand-		
	ards and do not earn English Language Arts credit.		
	Wellness	ELE	
300050	A course that addresses general wellness strategies. Credit earned is		
	not applied towards meeting graduation requirements for health and		
	physical education due to limited focus on content related to those		
	areas.		

**Table 44. Humanities Codes (31xxxx)** 

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
Humanit	ies courses may be included in district programs and may be taught	by a teacher	holding a valid
certificat	e or instruction may be provided by a team of teachers that collective	e hold the app	propriate certif-
icates/lic	enses for the content areas included in the course.		
	Humanities (7-8)	N/A	_
310010	The study of cultural achievements through the integration of litera-		
	ture, the arts, religion, history, and philosophy. (for grades 7-8)		
	Humanities	N/A	
310020	The study of cultural achievements through the integration of litera-		
	ture, the arts, religion, history, and philosophy.		

**Table 45. Driver Education Code (210100)** 

Subject	Description	Suggested	<b>Core Subject</b>
Code		Subject	Area (for
		Area for	HQT)
		Credit	
	Driver Education	ELE	
210100	Learning experiences provided by the school for the purposes of		
210100	helping pupils to become good traffic citizens and to operate motor		
	vehicles safely and efficiently.		

Table 46. ROTC Military Science Code (220000)

•	Description	Suggested	<b>Core Subject</b>
Code		Subject Ar-	
		ea for Cred-	HQT)
	DOTC Military Saiones	it	
220000	ROTC Military Science Organized subject matter and learning activities which are concerned with the development in each student attributes of (1) good citizenship and patriotism, (2) self-reliance, leadership, responsiveness to constituted authority, (3) a knowledge of the basic military skills, and (4) an appreciation of the role of the U.S. military in national defense.  (This subject code will be deleted in FY13; subject code 220001 is the replacement.)		
220001	ROTC Military Science Organized subject matter and learning activities which are concerned with the development in each student attributes of (1) good citizenship and patriotism, (2) self-reliance, leadership, responsiveness to constituted authority, (3) a knowledge of the basic military skills, and (4) an appreciation of the role of the U.S. military in national defense.		