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GARNER-HAYFIELD-VENTURA HIGH SCHOOL 4-YEAR PLANNER

Name: _____

Career Pathway: _____

GRADE 9

SEMESTER 1	SEMESTER 2
1. English 9	1. English 9
2. Integrated Science	2. Integrated Science
3. _____ (Math)	3. _____ (Math)
4. _____ Health-Must Choose Either 1st or 2nd Sem.	4. _____
5. Physical Education/Study Hall (Weights or Regular)	5. Physical Education/Study Hall
6. _____	6. _____
7. _____	7. _____
8. _____	8. _____
9. _____	9. _____
Freshmen Year Parent Signature: _____	

GRADE 10

SEMESTER 1	SEMESTER 2
1. English 10	1. English 10
2. Biology	2. Biology
3. _____ (Math)	3. _____ (Math)
4. _____ (Social Studies)	4. _____ (Social Studies)
5. Physical Education/Study Hall (Weights or Regular)	5. Physical Education/Study Hall
6. _____	6. _____
7. _____	7. _____
8. _____	8. _____
9. _____	9. _____
Sophomore Year Parent Signature: _____	

GRADE 11

SEMESTER 1	SEMESTER 2
1. American History	1. American History
2. English 11	2. English 11
3. _____ (Math)	3. _____ (Math)
4. _____ (Chemistry Elective)	4. _____ (Chemistry Elective)
5. Physical Education/Study Hall (Weights or Regular)	5. Physical Education/Study Hall
6. _____	6. _____
7. _____ Financial Literacy-Must Take 1 Semester	7. _____
8. _____ Either in 11th or 12th Grade	8. _____
9. _____	9. _____
Junior Year Parent Signature: _____	

GRADE 12

SEMESTER 1	SEMESTER 2
1. Economics	1. American Government
2. English 12 or Composition I	2. English 12 or Composition II
3. Physical Education/Study Hall (Weights or Regular)	3. Physical Education/Study Hall
4. _____	4. _____
5. _____ Financial Literacy-Must Take 1 Semester	5. _____
6. _____ Either in 11th or 12th Grade	6. _____
7. _____	7. _____
8. _____ (Science-Optional)	8. _____ (Science-Optional)
9. _____ (Math-Optional)	9. _____ (Math-Optional)
Senior Year Parent Signature: _____	

- May have 1 daily study hall each semester.

Garner-Hayfield-Ventura High School
Minimum Model Core Curriculum
and Graduation Requirements

Minimum graduation requirements will be as follows:

- English: 8 credits (4 years) *(Required)*
 English 9
 English 10
 English 11
 English 12 or Composition I/II
- Mathematics: 6 credits (3 years) *(Required)*
 Algebra I
 Algebra I-A Geometry
 Algebra I-B Consumer Math
 Algebra II Pre-Calculus
 Calculus Statistics
- Science: 6 credits (3 years) *(Required)*
 Integrated Science *(Required)*
 Biology *(Required)*
 Conceptual Chemistry or Intro to Chemistry (one of them is Required)
 Adv. Chemistry Anatomy & Physiology
 Physics Intro to College Biology
- Social Studies: 6 credits (3 years) *(Required)*
 Contemporary World Issues
 World Geography
 World Studies I World Studies II
 Psychology Sociology
 American History *(1 yr.-Required)*
 Economics *(1 Sem.-Required)*
 American Government *(1 Sem.-Required)*
- Physical Education: 4 credits (4 years) *(Required)*
 Health: 1 credit (1 semester) *(Required)*
 Financial Literacy: 1 credit (1 semester) *(Required)*
 Electives: 14 credits

Total Required Credits = 32

Total Elective Credits = 14

Total Credits Required for Graduation = 46

9th Grade Course Registration Sheet

Mathematics

47	<input type="checkbox"/>	Algebra I-A	(Year Course)
51	<input type="checkbox"/>	Algebra I-B	(Year Course)
52	<input type="checkbox"/>	Algebra I	(Year Course)
50	<input type="checkbox"/>	Geometry	(Year Course)

Science

69	<input type="checkbox"/>	*Integrated Science	(Year Course) <i>*Required</i>
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English

11	<input type="checkbox"/>	English 9	(Year Course)
5	<input type="checkbox"/>	English 9 Literature	(Year Course)

Health

65	<input type="checkbox"/>	*Health	(Either Semester) <i>*Required</i>
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Foreign Language

34	<input type="checkbox"/>	Spanish 1	(Year Course) <i>Prerequisite Course For Spanish 2</i>
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Business

101	<input type="checkbox"/>	Introduction to Business	(Either Semester)
119	<input type="checkbox"/>	Computer Applications	(1st Semester)

Family and Consumer Science

130	<input type="checkbox"/>	Foods (Fall)	(1 st Semester) <i>Prerequisite Course for Adv. Foods</i>
131	<input type="checkbox"/>	Intro to Textiles & Int. Design (Spring)	(2 nd Semester) <i>Prerequisite Course for Textiles & Design</i>

Agricultural Education

144	<input type="checkbox"/>	Agricultural Education 1	(Year Course)
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Industrial Education

148	<input type="checkbox"/>	Intro to Drafting & Design	(Either Semester) <i>Prerequisite Course for Adv. Metals, Woods & CAD</i>
154	<input type="checkbox"/>	Beginning Woods	(Either Semester)
160	<input type="checkbox"/>	Beginning Metals	(Either Semester)
151	<input type="checkbox"/>	Ind. Design & Assembly 1 (CAD)	(2 nd Semester)

Art

175	<input type="checkbox"/>	Foundations of Art 1	(1 st Semester) <i>Prerequisite Course for all Art classes, except Fdn. of Art 2</i>
183	<input type="checkbox"/>	Foundations of Art 2	(2 nd Semester) <i>Prerequisite Course for Drawing</i>

Other

187	<input type="checkbox"/>	TAG	(Either Semester-Instructor Approval Needed)
186	<input type="checkbox"/>	Mock Trial	(2nd Semester)
218	<input type="checkbox"/>	Band	(Year Course)
223	<input type="checkbox"/>	Flag/Rifle	(1 st Semester)
220	<input type="checkbox"/>	Mixed Chorus	(Year Course)
206	<input type="checkbox"/>	*Physical Education	(Year Course) <i>*Required</i>

9th Grade Course Registration Sheet

Graduation Requirements

Below are minimum requirements for graduation from GHV HS. As indicated in this curriculum guide students are encouraged to exceed minimum requirements. The number shown indicates how many semesters (credits) are required.

English -8

This includes English 9, English 10, English 11, and English 12 or Composition I & II.

Mathematics - 6

Includes six options (plus combinations of courses from options below):

1. One year of Algebra I-A & Algebra I-B plus Consumer Math.
2. One year of Algebra I-A & Algebra I-B plus Geometry.
3. One year each of Algebra I & Geometry plus Algebra II.
4. One year of Geometry & Algebra II plus Pre-Calculus.
5. One year of Geometry & Algebra II plus Pre-Calculus plus Calculus/Statistics.

Social Studies - 6

Includes a year of American History during the Junior year, one semester of Economics and one semester of American Government during the Senior year, plus two semesters of social studies electives.

Science - 6

Includes a progressive sequence that includes Integrated Science, Biology, Conceptual Chemistry or Intro to Chemistry, Anatomy & Physiology, Advanced Chemistry, Physics, or College Biology.

Health - 1

Includes one semester during the freshman year.

Financial Literacy - 1

Includes one semester during either junior or senior year.

Total Credits - 46 credits

Also required are 8 semesters of satisfactory work in Physical Education.

10th Grade Course Registration Sheet

Social Studies

83	<input type="checkbox"/>	Contemporary World Issues	(1 st Semester)	
84	<input type="checkbox"/>	World Geography	(2 nd Semester)	
85	<input type="checkbox"/>	World Studies I	(1 st Semester)	*Can take World Studies I without World Studies II
93	<input type="checkbox"/>	World Studies II	(2 nd Semester)	*Can take World Studies II without World Studies I

Mathematics

50	<input type="checkbox"/>	Algebra 1-B	(Year Course)
51	<input type="checkbox"/>	Algebra I	(Year Course)
52	<input type="checkbox"/>	Geometry	(Year Course)
53	<input type="checkbox"/>	Algebra II	(Year Course)

Science

68	<input type="checkbox"/>	*Biology	(Year Course)	<i>*Required</i>
72	<input type="checkbox"/>	*Intro to Chemistry	(Year Course)	<i>*Instructor Approval required</i>

English

12	<input type="checkbox"/>	English 10	(Year Course)
6	<input type="checkbox"/>	English 10 Composition	(Year Course)

Foreign Language

34	<input type="checkbox"/>	Spanish 1	(Year Course)	<i>Prerequisite Course for Spanish 2</i>
35	<input type="checkbox"/>	Spanish 2	(Year Course)	<i>Prerequisite Course for Spanish 3</i>

Business

101	<input type="checkbox"/>	Introduction to Business	(Either Semester)
119	<input type="checkbox"/>	Computer Applications	(1 st Semester)
121	<input type="checkbox"/>	Computer Science Principles	(2 nd Semester)
102	<input type="checkbox"/>	Accounting	(Year Course)
105	<input type="checkbox"/>	Retail Marketing	(1 st Semester)
106	<input type="checkbox"/>	Business Law	(2 nd Semester)

Family and Consumer Science

130	<input type="checkbox"/>	Foods (Fall)	(1 st Semester)	<i>Prerequisite Course for Adv. Foods</i>
131	<input type="checkbox"/>	Intro to Textiles & Int. Design (Spring)	(2 nd Semester)	<i>Prerequisite Course for Textiles & Design</i>
132	<input type="checkbox"/>	Advanced Foods	(1 st Semester)	
133	<input type="checkbox"/>	Textiles and Design	(Either Semester)	
135	<input type="checkbox"/>	Child Development	(2 nd Semester)	<i>Prerequisite for Cadet Teaching</i>

Agricultural Education

145	<input type="checkbox"/>	Agricultural Education 2	(Year Course)
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Industrial Education

148	<input type="checkbox"/>	Intro. To Drafting & Design	(Either Semester)	<i>Prerequisite Course for Adv. Metals, Woods & CAD</i>
151	<input type="checkbox"/>	Ind. Design, Layout & Assembly 1 (CAD)	(Either Semester)	
152	<input type="checkbox"/>	Ind. Design, Layout & Assembly 2 (CAD)	(Either Semester)	
154	<input type="checkbox"/>	Beginning Woods	(Either Semester)	
155	<input type="checkbox"/>	Advanced Woods	(Either Semester)	
160	<input type="checkbox"/>	Beginning Metals	(Either Semester)	
161	<input type="checkbox"/>	Advanced Metals	(Either Semester)	

10th Grade Course Registration Sheet (con't)

Art

175	<input type="checkbox"/>	Foundations of Art 1	(1 st Semester)	<i>Prerequisite Course for all Art classes, except Fnd. of Art 2</i>
183	<input type="checkbox"/>	Foundations of Art 2	(2 nd Semester)	<i>Prerequisite Course for Drawing</i>
176	<input type="checkbox"/>	Creative Drawing	(1 st Semester)	<i>Prerequisite for Painting</i>
178	<input type="checkbox"/>	Sculpture	(1 st Semester)	
179	<input type="checkbox"/>	Painting	(2 nd Semester)	
181	<input type="checkbox"/>	Ceramics	(2 nd Semester)	

Other

187	<input type="checkbox"/>	TAG	(Either Semester)	<i>*Instructor Approval Required</i>
186	<input type="checkbox"/>	Mock Trial	(2 nd Semester)	
218	<input type="checkbox"/>	Band	(Year Course)	
223	<input type="checkbox"/>	Flag/Rifle	(1 st Semester)	
220	<input type="checkbox"/>	Mixed Chorus	(Year Course)	
206	<input type="checkbox"/>	*Physical Education	(Year Course)	<i>*Required</i>

11th Grade Course Registration Sheet

Social Studies

83	<input type="checkbox"/>	Contemporary World Issues	(1 st Semester)	
84	<input type="checkbox"/>	World Geography	(2 nd Semester)	
85	<input type="checkbox"/>	World Studies I	(1 st Semester)	*Can take World Studies I without World Studies II
93	<input type="checkbox"/>	World Studies II	(2 nd Semester)	*Can take World Studies II without World Studies I
86	<input type="checkbox"/>	*American History	(Year Course)	* <i>Required</i>
88	<input type="checkbox"/>	Psychology	(Either Semester)	* Cannot take Psych./Soc. during the same semester (<i>Pre-requisite Course for Cadet Teaching</i>)
89	<input type="checkbox"/>	Sociology	(Either Semester)	* Cannot take Psych./Soc. during the same semester

Mathematics

52	<input type="checkbox"/>	Algebra I	(Year Course)
50	<input type="checkbox"/>	Geometry	(Year Course)
53	<input type="checkbox"/>	Algebra II	(Year Course)
54	<input type="checkbox"/>	<i>Statistics</i>	(Year Course)
55	<input type="checkbox"/>	<i>Pre-Calculus</i>	(Year Course)
99	<input type="checkbox"/>	Consumer Math	(Year Course)

Science

75	<input type="checkbox"/>	Conceptual Chemistry	(Year Course)	<i>or</i>
72	<input type="checkbox"/>	Intro to Chemistry	(Year Course)	
70	<input type="checkbox"/>	Anatomy & Physiology	(Year Course)	<i>Prerequisite for Intro to College Bio</i>
73	<input type="checkbox"/>	<i>Advanced Chemistry</i>	(Year Course)	
74	<input type="checkbox"/>	<i>Physics</i>	(Year Course)	

English

10	<input type="checkbox"/>	English 11	(Year Course)
7	<input type="checkbox"/>	English 11 Literature	(Year Course)

Financial Literacy

122	<input type="checkbox"/>	*Financial Literacy	(Either Semester)	*Required
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Foreign Language

34	<input type="checkbox"/>	Spanish 1	(Year Course)	<i>Prerequisite Course for Spanish 2</i>
35	<input type="checkbox"/>	Spanish 2	(Year Course)	<i>Prerequisite Course for Spanish 3</i>
36	<input type="checkbox"/>	<i>Spanish 3</i>	(Year Course)	<i>Prerequisite Course for Spanish 4</i>

Business

102	<input type="checkbox"/>	Accounting	(Year Course)
103	<input type="checkbox"/>	Advanced Accounting	(Year Course)
105	<input type="checkbox"/>	Retail Marketing	(1 st Semester)
106	<input type="checkbox"/>	Business Law	(2 nd Semester)
101	<input type="checkbox"/>	Introduction to Business	(Either Semester)
119	<input type="checkbox"/>	Computer Applications	(1 st Semester)
121	<input type="checkbox"/>	Computer Science Principles	(2 nd Semester)

(Bold/italicized count toward 5 advanced courses to qualify for PE Waiver)

11th Grade Course Registration Sheet (con't)

Family and Consumer Science

66	<input type="checkbox"/>	Advanced Health	(2 nd Semester)	
130	<input type="checkbox"/>	Foods (Fall)	(1 st Semester)	<i>Prerequisite Course for Adv. Foods</i>
131	<input type="checkbox"/>	Intro to Textiles & Int. Design (Spring)	(2 nd Semester)	<i>Prerequisite Course for Textiles & Design</i>
132	<input type="checkbox"/>	Advanced Foods	(1 st Semester)	<i>Prerequisite Course for Culinary Arts</i>
133	<input type="checkbox"/>	Textiles and Design	(Either Semester)	
134	<input type="checkbox"/>	Personal & Family Relations	(1 st Semester)	
135	<input type="checkbox"/>	Child Development	(2 nd Semester)	<i>Prerequisite Course for Cadet Teaching</i>

Agricultural Education

146	<input type="checkbox"/>	Agricultural Education 3	(Year Course)
149	<input type="checkbox"/>	Horticulture	(2 nd Semester)

Industrial Education

148	<input type="checkbox"/>	Intro to Drafting & Design	(Either Semester)	<i>Prerequisite Course for Adv. Metals, Woods & CAD</i>
151	<input type="checkbox"/>	Ind. Design, Layout & Assembly 1 (CAD)	(Either Semester)	
152	<input type="checkbox"/>	Ind. Design, Layout & Assembly 2 (CAD)	(Either Semester)	
153	<input type="checkbox"/>	Ind. Design, Layout & Assembly 3 (CAD)	(2 nd Semester)	
154	<input type="checkbox"/>	Beginning Woods	(Either Semester)	
155	<input type="checkbox"/>	Advanced Woods	(Either Semester)	
160	<input type="checkbox"/>	Beginning Metals	(Either Semester)	
161	<input type="checkbox"/>	Advanced Metals	(Either Semester)	
163	<input type="checkbox"/>	Power Mechanics	(2 nd Semester)	
170	<input type="checkbox"/>	Equipment Refinishing	(1 st Semester)	
164	<input type="checkbox"/>	Beginning Manufacturing	(Either Semester)	<i>Prerequisite Course is Advanced Metals</i>
165	<input type="checkbox"/>	Beginning Carpentry	(Either Semester)	<i>Prerequisite Course is Advanced Woods</i>

Art

175	<input type="checkbox"/>	Foundations of Art 1	(1 st Semester)	<i>Prerequisite Course for all Art classes, except Fund. of Art 2</i>
183	<input type="checkbox"/>	Foundations of Art 2	(2 nd Semester)	<i>Prerequisite Course for Drawing</i>
176	<input type="checkbox"/>	Creative Drawing	(1 st Semester)	<i>Prerequisite Course for Painting</i>
177	<input type="checkbox"/>	Graphic Design	(1 st Semester)	
178	<input type="checkbox"/>	Sculpture	(1 st Semester)	
179	<input type="checkbox"/>	Painting	(2 nd Semester)	
181	<input type="checkbox"/>	Ceramics	(2 nd Semester)	
180	<input type="checkbox"/>	Photography	(2 nd Semester)	
182	<input type="checkbox"/>	Art Portfolio	(2 nd Semester)	

Other

187	<input type="checkbox"/>	TAG	(Either Semester)	<i>*Instructor Approval Required</i>
186	<input type="checkbox"/>	Mock Trial	(2 nd Semester)	
218	<input type="checkbox"/>	Band	(Year Course)	
223	<input type="checkbox"/>	Flag/Rifle	(1 st Semester)	
221	<input type="checkbox"/>	Vocal	(Year Course)	
207	<input type="checkbox"/>	*Physical Education	(Year Course)	<i>*Required</i>
	<input type="checkbox"/>	Advanced Academics	(1 st and/or 2 nd Semester)	See Course Description for Class Requirements

(Bold/italicized count toward 5 advanced courses to qualify for PE Waiver)

12th Grade Course Registration Sheet

Social Studies

83	<input type="checkbox"/>	Contemporary World Issues	(1st Semester)	
84	<input type="checkbox"/>	World Geography	(2 nd Semester)	
85	<input type="checkbox"/>	World Studies I	(1 st Semester)	*Can take World Studies 1 without World Studies II
93	<input type="checkbox"/>	World Studies II	(2 nd Semester)	*Can take World Studies II without World Studies I
87	<input type="checkbox"/>	*American Government	(2 nd Semester)	* <i>Required</i>
90	<input type="checkbox"/>	*Economics	(1st Semester)	* <i>Required</i>
88	<input type="checkbox"/>	Psychology	(Either Semester)	* <i>Cannot take Psych./Soc. during the same semester</i> <i>(Pre-requisite Course for Cadet Teaching & Health Academy)</i>
89	<input type="checkbox"/>	Sociology	(Either Semester)	* <i>Cannot take Psych./Soc. during the same semester</i>

Mathematics

52	<input type="checkbox"/>	Algebra I	(Year Course)
50	<input type="checkbox"/>	Geometry	(Year Course)
53	<input type="checkbox"/>	Algebra II	(Year Course)
54	<input type="checkbox"/>	<i>Statistics</i>	(Year Course)
55	<input type="checkbox"/>	<i>Pre-Calculus</i>	(Year Course)
57	<input type="checkbox"/>	<i>Calculus</i>	(Year Course)
99	<input type="checkbox"/>	Consumer Math	(Year Course)

Science

75	<input type="checkbox"/>	Conceptual Chemistry	(Year Course)	<i>or</i>
72	<input type="checkbox"/>	Intro to Chemistry	(Year Course)	
70	<input type="checkbox"/>	Anatomy & Physiology	(Year Course)	
73	<input type="checkbox"/>	Advanced Chemistry	(Year Course)	
74	<input type="checkbox"/>	Physics	(Year Course)	
78	<input type="checkbox"/>	College Biology	(Year Course)	Prerequisite course is Anatomy

English

9	<input type="checkbox"/>	English 12	(Year Course)	
8	<input type="checkbox"/>	English 12 Composition	(Year Course)	
299	<input type="checkbox"/>	* <i>Composition I</i>	(1 st Semester)	10 or greater on NIACC Writing Assessment
300	<input type="checkbox"/>	* <i>Composition II</i>	(2 nd Semester)	or ACT English score of 16 or greater

Financial Literacy

122	<input type="checkbox"/>	*Financial Literacy	(Either Semester)	*Required
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Foreign Language

34	<input type="checkbox"/>	Spanish 1	(Year Course)	<i>Prerequisite Course for Spanish 2</i>
35	<input type="checkbox"/>	Spanish 2	(Year Course)	<i>Prerequisite Course for Spanish 3</i>
36	<input type="checkbox"/>	<i>Spanish 3</i>	(Year Course)	<i>Prerequisite Course for Spanish 4</i>
37	<input type="checkbox"/>	<i>Spanish 4</i>	(Year Course)	
39	<input type="checkbox"/>	<i>Advanced Spanish 4</i>	(Year Course)	

Business

102	<input type="checkbox"/>	Accounting	(Year Course)	
103	<input type="checkbox"/>	Advanced Accounting	(Year Course)	* <i>Instructor Approval Required</i>
105	<input type="checkbox"/>	Retail Marketing	(1 st Semester)	
106	<input type="checkbox"/>	Business Law	(2 nd Semester)	
101	<input type="checkbox"/>	Introduction to Business	(Either Semester)	
119	<input type="checkbox"/>	Computer Applications	(1st Semester)	
121	<input type="checkbox"/>	Computer Science Principles	(2 nd Semester)	

(Bold/italicized count toward 5 advanced courses to qualify for PE Waiver)

12th Grade Course Registration Sheet (con't)

Family and Consumer Science

130		Foods (Fall)	(1 st Semester)	<i>Prerequisite Course for Adv. Foods</i>
131		Intro to Textiles & Int. Design (Spring)	(2 nd Semester)	<i>Prerequisite Course for Textiles & Design</i>
132		Advanced Foods	(1 st Semester)	<i>Prerequisite Course for Culinary Arts</i>
133		Textiles and Design	(Either Semester)	
134		Personal & Family Relations	(1 st Semester)	
135		Child Development	(2 nd Semester)	<i>Prerequisite Course for Cadet Teaching</i>
138		Culinary Arts	(2 nd Semester)	
66		Advanced Health	(2 nd Semester)	

Agricultural Education

147		Agricultural Education 4	(1 st Semester)	
171		College Animal Science I	(1 st Semester)	<i>Instructor Approval</i>
143		College Ag. Business	(2 nd Semester)	<i>Instructor Approval</i>
149		Horticulture	(2 nd Semester)	<i>Instructor Approval</i>

Industrial Education

148		Intro to Drafting & Design	(Either Semester)	<i>Prerequisite Course for Adv. Metals, Woods & CAD</i>
151		Ind. Design, Layout & Assembly 1 (CAD)	(Either Semester)	
152		Ind. Design, Layout & Assembly 2 (CAD)	(Either Semester)	
153		Ind. Design, Layout & Assembly 3 (CAD)	(2 nd Semester)	
154		Beginning Woods	(Either Semester)	
155		Advanced Woods	(Either Semester)	
160		Beginning Metals	(Either Semester)	
161		Advanced Metals	(Either Semester)	
163		Power Mechanics	(2 nd Semester)	
170		Equipment Refinishing	(1 st Semester)	
164		Beginning Manufacturing	(Either Semester)	<i>Prerequisite Course is Advanced Metals</i>
165		Beginning Carpentry	(Either Semester)	<i>Prerequisite Course is Advanced Woods</i>

Art

175		Foundations of Art 1	(1 st Semester)	<i>Prerequisite Course for all Art classes, except Fnd of Art 2</i>
183		Foundations of Art 2	(2 nd Semester)	<i>Prerequisite Course for Drawing</i>
176		Creative Drawing	(1 st Semester)	<i>Prerequisite Course for Painting</i>
177		Graphic Design	(1 st Semester)	
178		Sculpture	(1 st Semester)	
179		Painting	(2 nd Semester)	
181		Ceramics	(2 nd Semester)	
180		Photography	(2 nd Semester)	
182		Art Portfolio	(2 nd Semester)	

NIACC Career Link Academies

194		Entrepreneurship Academy (Garner-Hayfield-Ventura) 2 periods + English or Comp I & II		
200		Health Careers Hanson Career Center (Forest City) Periods 1-5		
203		I.T. (Information Technology) Hanson Career Center (Forest City) Periods 1-5		
204		Building Trades Hanson Career Center (Forest City) Periods 1-5		
199		Advanced Manufacturing Hanson Career Center (Forest City) Periods 1-5		
201		Automotive Service Technology (North Iowa Area Community College) Periods 1-6		
202		Tool & Die Technology (North Iowa Area Community College) Periods 1-6		

Other

187		TAG	(Either Semester)	<i>Instructor Approval Required</i>
186		Mock Trial	(2 nd Semester)	
218		Band	(Year Course)	
223		Flag/Rifle	(1 st Semester)	
221		Vocal	(Year Course)	
191		Work Experience	(Either Semester)	<i>Principal Approval Required</i>
192		Cadet Teaching	(Either Semester)	<i>Instructor Approval Required-Min Pre-requisites</i>
66		Advanced Health	(2 nd Semester)	<i>of Psychology & Child Development</i>
207		*Physical Education	(Year Course)	<i>*Required</i>
		Advanced Academics	(1 st and/or 2 nd Semester)	<i>See Course Description for Class Requirement</i>

(Bold/italicized count toward 5 advanced courses to qualify for PE Waiver)

Garner-Hayfield-Ventura High School

Extra-Curricular Activities

Archery
Baseball
Boys Basketball
Boys Cross Country
Boys Golf
Boys Soccer
Boys Track
Cheerleading
Chorus
Concert Band
Contest Speech
Dramatics
E – Sports
FCA (Fellowship of Christian Athletes)
FFA (Future Farmers of America)
FCCLA (Family, Career & Community Leaders of America)
Flag/Rifle
Football
GAP (Garner Asset Project)
Girls Basketball
Girls Cross Country
Girls Golf
Girls Soccer
Girls Track
Instrumental Ensemble
Instrumental Solo
Jazz Band
Marching Band
Mock Trial
National Honor Society
Softball
Student Council
Teen Council
Trapshooting
Vocal Ensemble
Vocal Jazz
Vocal Solo
Volleyball
Wrestling
Yearbook Staff
YIELD (Youth Investing Energy in Leadership Development)

FOREIGN LANGUAGE

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X	X	X	X	Spanish 1	1 Year	Fall-Spring	2	None
	X	X	X	Spanish 2	1 Year	Fall-Spring	2	Spanish 1
		X	X	Spanish 3	1 Year	Fall-Spring	2	Spanish 2
			X	Spanish 4	1 Year	Fall-Spring	2	Spanish 3
			X	Spanish 4 Advanced Spanish	1 Year	Fall-Spring	2	Spanish 3 Instructor Approval

The study of a foreign language is highly recommended for college-bound students and can greatly benefit all other students, especially in the areas of English, Social Studies, Science, Business, and Music. Several colleges have foreign language requirements, so check your college catalog or consult your counselor to find out if the college of your choice requires a foreign language. Foreign language requirements at the three regent state universities: Iowa, ISU, and UNI are as follows:

UNI:

- You will need one year of foreign language to graduate from UNI. This can be satisfied by:
 - * 2 years of high school foreign language (C- or better in the last course taken) or
 - * 1 year of high school + one semester of college.

University of Iowa:

- For Admission = 2 years of high school
- To graduate = 4 years of high school or 4 year of proficiency is required.
- (Nursing – 4 years in a single language or 2 years each in 2 different languages)

Iowa State University:

Liberal Arts and Sciences College:

- For Admission = 2 years of high school
- To graduate = 3 years of high school or 3 years of proficiency is required.

College of Engineering:

- For Admission = 2 years of high school foreign language

FOREIGN LANGUAGE

COURSE:	Spanish I
COURSE LENGTH:	One Year (1 credit per semester)
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9 -12

COURSE DESCRIPTION:

In this course, Spanish is introduced incorporating activities that emphasize the skills of reading, writing and speaking the language. Culture of Spanish-speaking countries is also studied. A passable grade first semester is required to continue into second semester.

SCED Code 24052 Spanish I

Designed to introduce students to Spanish language and culture, Spanish I courses prepare students to communicate authentically in Spanish by interpreting (reading, listening, viewing), exchanging (speaking and listening; reading and writing), and presenting (speaking, writing) information on a variety of topics. They introduce the relationships among the products, practices, and perspectives of Spanish-speaking cultures.

COURSE:	Spanish 2
COURSE LENGTH:	One Year (1 credit per semester)
COURSE TYPE:	Elective
PREREQUISITES:	Spanish 1
GRADE AVAILABILITY:	10, 11, and 12

COURSE DESCRIPTION:

This course is open to all students who have successfully completed Spanish 1. This course involves a continuation and elaboration of the basics learned in Spanish 1. The students are involved in speaking, reading and writing activities. Culture is also continued. A passable grade first semester is required to continue into second semester.

SCED Code 24053 Spanish II

Spanish II courses build upon skills developed in Spanish I, preparing students to communicate authentically in Spanish by interpreting (reading, listening, viewing), exchanging (speaking and listening; reading and writing), and presenting (speaking, writing) information on concrete topics. Spanish II courses introduce the relationships among the products, practices, and perspectives of Spanish-speaking cultures.

COURSE:	Spanish 3
COURSE LENGTH:	One Year (1 credit per semester)
COURSE TYPE:	Elective
PREREQUISITES:	Spanish 1 and 2
GRADE AVAILABILITY:	11, 12

COURSE DESCRIPTION:

This course is open to all students who have successfully completed two years of Spanish. This course focuses on furthering student abilities in speaking, reading, writing, and listening. Spanish 3 continues the study of the language elaborating on the concepts learned in Spanish 1 and Spanish 2. Culture is also continued. A passable grade first semester is required to continue into second semester.

SCED Code 24054 Spanish III

Spanish III courses prepare students to communicate authentically in Spanish by interpreting (reading, listening, viewing), exchanging (speaking and listening; reading and writing), and presenting (speaking, writing) information, concepts, and ideas on a variety of topics, including connections to other subject areas. These courses expand students' knowledge of relationships among the products, practices, and perspectives of Spanish-speaking countries and cultures.

COURSE: **Spanish 4**
COURSE LENGTH: One Year (1 credit per semester)
COURSE TYPE: Elective
PREREQUISITES: Spanish 1, 2 and 3
GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

This course is for students who have successfully completed three years of Spanish. It continues the project-oriented activities from Spanish 3 and group work is emphasized. Increased awareness of the use of Spanish and our culture and other cultures is studied. A passable grade first semester is required to continue into second semester.

SCED Code 24055 Spanish IV

Spanish IV courses prepare students to communicate authentically in Spanish by interpreting (reading, listening, viewing), exchanging (speaking and listening; reading and writing), and presenting (speaking, writing) information, concepts, and ideas on a variety of topics, including connections to other subject areas. Spanish IV courses promote students' understanding of the relationships among the products, practices, and perspectives of Spanish-speaking countries and cultures.

COURSE: **Advanced Spanish 4**
COURSE LENGTH: One Year (1 credit per semester)
COURSE TYPE: Elective
PREREQUISITES: Spanish 1, 2, 3 and Instructor Approval
GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

This course is for students who have successfully completed four years of Spanish. Increased awareness of the use of Spanish and our culture and other cultures is studied. A passable grade first semester is required to continue into second semester. Completing a full year of Advanced Spanish 4 allows students to earn 1/3 of their Spanish minor before graduating high school.

SCED Code 24056 Advanced Spanish 4

Advanced Spanish 4 courses prepare students to communicate authentically in Spanish by interpreting (reading, listening, viewing), exchanging (speaking and listening; reading and writing), and presenting (speaking, writing) information, concepts, and ideas on a variety of topics, including connections to other subject areas. Advanced Spanish 4 courses promote students' understanding of the relationships among the products, practices, and perspectives of Spanish-speaking countries and cultures.

LANGUAGE ARTS

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X				English 9	1 Year	Fall-Spring	2	None
X				English 9 Literature	1 Year	Fall-Spring	2	None
	X			English 10	1 Year	Fall-Spring	2	English 9
	X			English 10 Composition	1 Year	Fall-Spring	2	English 9/ English 9 Literature
		X		English 11	1 Year	Fall-Spring	2	English 9 & 10
		X		English 11 Literature	1 Year	Fall-Spring	2	English 10/ English 10 Composition
			X	English 12	1 Year	Fall-Spring	2	English 9,10 & 11
			X	English 12 Composition	1 Year	Fall-Spring	2	English 11/ English 11 Literature
			X	Composition I	1 Semester	Fall	1	English 9, 10, 11 & Instructor Approval
			X	Composition II	1 Semester	Spring	1	Composition I

LANGUAGE ARTS

COURSE:	English 9
COURSE LENGTH:	One Year
COURSE TYPE:	Required
PREREQUISITES:	None
GRADE AVAILABILITY:	9

COURSE DESCRIPTION:

English 9 is a comprehensive course that builds upon previously introduced areas of English. Students will read a variety of literary and informational selections geared to reinforce and develop the skills of a good reader. Additionally, the grammar and composition portion is aimed at aiding students in developing strong written expression in both expository and persuasive formats. Vocabulary units and speeches are interspersed throughout the year.

SCED Code 01001 English/Language Arts I (9th grade)

English/Language Arts I (9th grade) courses build upon students' prior knowledge of grammar, vocabulary, word usage, and the mechanics of writing and usually include the four aspects of language use: reading, writing, speaking, and listening. Typically, these courses introduce and define various genres of literature, with writing exercises often linked to reading selections.

COURSE:	English 9 Literature
COURSE LENGTH:	One Year
COURSE TYPE:	
PREREQUISITES:	None
GRADE AVAILABILITY:	9

COURSE DESCRIPTION:

English/Literature course designed for freshman and focus on several genres of literature: (novel, short story, poetry, play and so on). Exploration of each genre's literary elements; determination of theme and intent; and examination of vocabulary and semantics are often included in the course content. Writing assignments are required to convey understanding and comprehension of covered material.

SCED Code 01051 English 9 Literature

English/Literature courses are designed for freshman and/or sophomores and typically introduce them to two or more genres of literature: (novel, short story, poetry and so on). Exploration of each genre's literary elements; determination of theme and intent; and examination of vocabulary and semantics are often included in the course content. Writing assignments are required as an additional method to improve understanding and comprehension.

COURSE:	English 10
COURSE LENGTH:	One Year
COURSE TYPE:	Required
PREREQUISITES:	English 9
GRADE AVAILABILITY:	10

COURSE DESCRIPTION:

English 10 is a comprehensive course that builds upon previously introduced areas of English. The course examines various types of literature (short story, essays, and drama) as well as grammar and composition. Learning targets focus on comprehending both fiction and non-fiction text, and writing goals focus on narrative, expository and argumentative compositions using elements of the writer's workshop. Formulating sound opinions and expressing them is emphasized in all aspects of this course. A formal position/research paper as well as speeches will be completed in this class. Vocabulary units are interspersed throughout the year.

SCED Code 01002 English/Language Arts II (10th grade)

English/Language Arts II (10th grade) courses usually offer a balanced focus on composition and literature. Typically, students learn about the alternate aims and audiences of written compositions by writing persuasive, critical, and creative multi-paragraph essays and compositions. Through the study of various genres of literature, students can improve their reading rate and comprehension and develop the skills to determine the author's intent and theme and to recognize the techniques used by the author to deliver his or her message.

COURSE: **English 10 Composition**
COURSE LENGTH: One Year
COURSE TYPE:
PREREQUISITES: English 9/English 9 Literature
GRADE AVAILABILITY: 10
COURSE DESCRIPTION:

English/Composition course designed for sophomores to focus specifically upon writing skills. This course seeks to develop the writing processes and practices necessary for producing successful compositions. Students typically learn to write persuasive, critical, and creative essays and compositions. While emphasizing composition, this course will also incorporate some literature study to expose students to exemplary illustrations of various forms of writing.

SCED Code 01102 English 10 Composition

English/Composition courses are designed for freshman and/or sophomores and build upon previous writing skills. These courses seek to develop the writing processes and practices necessary for producing successful high school compositions. Students typically learn to write persuasive, critical, and creative multi-paragraph essays and compositions. While emphasizing composition, these courses may also incorporate some literature study to expose students to exemplary illustrations of various forms of writing.

COURSE: **English 11**
COURSE LENGTH: One Year
COURSE TYPE: Required
PREREQUISITES: English 9 and English 10
GRADE AVAILABILITY: 11
COURSE DESCRIPTION:

English 11 includes a skills-centered study of predominantly American literature (literary and informational text) and writing (technical and academic). The literature is a diverse collection of classical and contemporary selections. Typical problems in written communication are reviewed, and students complete four career documents as a part of the cross-curricular career unit. Vocabulary units and speeches are interspersed throughout the year.

SCED Code 01003 English/Language Arts III (11th grade)

English/Language Arts III (11th grade) courses continue to develop students' writing skills, emphasizing clear, logical writing patterns, word choice, and usage, as students write essays and begin to learn the techniques of writing research papers. Students continue to read works of literature, which often form the backbone of the writing assignments. Literary conventions and stylistic devices may receive greater emphasis than in previous courses.

COURSE: **English 11 Literature**
COURSE LENGTH: One Year
COURSE TYPE:
PREREQUISITES: English 10/English 10 Composition
GRADE AVAILABILITY: 11
COURSE DESCRIPTION:

English/Literature course is designed for juniors and emphasize comprehension, discernment, and critical thinking skills in the reading of texts and literature. This course introduces and explores more advanced literary techniques (irony, satire, humor, connotation, tone, rhythm, symbolism, and so on) through various literary genres, with the aim of creating sophisticated readers. Writing assignments are required to develop and improve critical thinking and analytical skills.

SCED Code 01052 English 11 Literature

English/Literature courses are designed for juniors and emphasize comprehension, discernment, and critical thinking skills in the reading of texts and literature. These courses introduce and explore more advanced literary techniques (irony, satire, humor, connotation, tone, rhythm, symbolism, and so on) through two or more literary genres, with the aim of creating sophisticated readers. Writing assignments are required as an additional method to develop and improve critical thinking and analytical skills.

COURSE: **English 12**
COURSE LENGTH: One Year
COURSE TYPE: Required
PREREQUISITES: English 9, English 10 and English 11
GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

English 12 continues the study of literature and writing, this time using a diverse collection of world literature. Students will read a variety of literary and informational selections, both classical and contemporary. A research interview project and research paper are among the writing assignments. Vocabulary units and speeches are interspersed throughout the year.

SCED Code 01104 English/Language Arts IV (12th grade)

English/Language Arts IV (12th grade) courses blend composition and literature into a cohesive whole as students write critical and comparative analyses of selected literature, continuing to develop their language arts skills. Typically, students primarily write multi-paragraph essays, but they may also write one or more major research papers.

COURSE: **English 12 Composition**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: English 11/English 11 Literature
GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

English 12 Composition course is designed for seniors and builds upon previous writing skills. Reinforcing the logic and critical thinking skills that accompany good writing, this course – which emphasize word choice, usage, and writing mechanics – provides continued and advanced instruction in writing for a variety of purposes and audiences. The course will emphasize college and business preparation; the study of exemplars will be offered as an additional component in which students analyze examples of various writing techniques.

SCED Code 01102 English 12 Composition

English/composition courses are designed for seniors and build upon previous writing skills. Reinforcing the logic and critical thinking skills that accompany good writing, these courses – which emphasize word choice, usage, and writing mechanics – provide continued and advanced instruction in writing for a variety of purposes and audiences.

English/Composition (juniors and seniors) courses may emphasize college or business preparation; literature study may be offered as an additional component in which students analyze examples of several genres.

COURSE: **Composition I (NIACC Concurrent Enrollment Course)-ENG-105**

COURSE LENGTH: 1 Semester (Fall)
COURSE TYPE: Elective
PREREQUISITES: English 9, 10, 11; NIACC Writing Assessment Score of 10 or higher or ACT Reading score of 16 or above; Instructor Approval
GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

This is an advanced writing course. The focus of this course is advancement of already well-developed writing and editing, with an emphasis on expository methods of development and personal experience as supporting material. Students will be required to use Word, Turnitin and Google Classroom. This is a writing course, not a reading/literature course, nor does it include the speech component of ENG-102. Students must earn a minimum of a “C” in ENG-105 to move on to ENG-106. As this is a college course, we will be adhering to NIACC’s guidelines and policies, which will be noted in the course syllabus. Students must score proficient in math, reading and science on the Iowa Assessments. Spring break for this course will follow that of the GHV calendar.

SCED Code 01103 Composition

Composition courses focus on students’ writing skills and develop their ability to compose different types of papers for a range of purposes and audiences. These courses enable students to explore and practice descriptive, narrative, persuasive, or expository styles as they write paragraphs, essays, letters, applications, formal documents papers, or technical reports. Although composition courses may present some opportunities for creative writing, their focus usually

remains on nonfiction, scholarly, or formal writing.

COURSE: **Composition II (NIACC Concurrent Enrollment Course)-ENG-106**
COURSE LENGTH: 1 Semester (Spring)
COURSE TYPE: Elective
PREREQUISITES: **Students must have earned a minimum of a "C" in ENG-105 to move on to ENG-106.**
GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

This is an advanced writing course. This course is a continuation of ENG-105 with an emphasis on argumentative writing and research methods. Students will be required to use Word, Google Classroom, Turnitin, this is not a reading/literature course, nor does it include the speech component of ENG-103. Students must score proficient in math, reading, and science on the Iowa Assessments. As this is a college course, we will be adhering to NIACC's guidelines and policies that will be noted in the course syllabus. Spring break for this course will follow that of the GHV calendar.

SCED Code 01103 Composition

Composition courses focus on students' writing skills and develop their ability to compose different types of papers for a range of purposes and audiences. These courses enable students to explore and practice descriptive, narrative, persuasive, or expository styles as they write paragraphs, essays, letters, applications, formal documents papers, or technical reports. Although composition courses may present some opportunities for creative writing, their focus usually remains on nonfiction, scholarly, or formal writing.

MATHEMATICS

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X	X			Algebra I-A	1 Year	Fall-Spring	2	None
	X	X		Algebra I-B	1 Year	Fall-Spring	2	Algebra I-A
		X	X	Consumer Math	1 Year	Fall-Spring	2	None
X	X	X	X	Algebra I	1 Year	Fall-Spring	2	None
X	X	X	X	Geometry	1 Year	Fall-Spring	2	Algebra I
	X	X	X	Algebra II	1 Year	Fall-Spring	2	Algebra I Geometry
		X	X	Statistics	1 Year	Fall-Spring	2	Geometry Algebra II
		X	X	Pre-Calculus	1 Year	Fall-Spring	2	Algebra II
			X	Calculus	1 Year	Fall-Spring	2	Pre-Calculus

Mathematics at GHV High School

*Mathematics at GHV High School includes several options to meet the needs of all students. The first mathematics course you take at GHV High School is contingent upon what you have taken as an eighth grader and the success / lack of success you experienced in that course. Your mathematics instructors are very willing to help you make this determination and offer any advice as to the correct course selection. Below are several "math tracks" a student can follow plus there are several combinations if you elect to take two courses concurrently...commonly referred to as "doubling up." Any student wishing to "double up" **must have** instructor approval to do so. The most common courses to "double up" on and take at the same time are Geometry and Algebra 2. The pre-requisite for each of these courses is Algebra 1. Due to the mathematical differences and pre-requisite requirements, Geometry and Algebra 2 are the two most logical courses to attempt to accomplish "doubling up" for strong mathematics students at GHV High School.*

If you are in Algebra I as an 8th grader:

Students who begin high school enrolled in Geometry are expected to take four (4) years of math. In order to be eligible to take Geometry as a freshman, students must have received 70% or above during each semester of Algebra I during their 8th grade year.

8th grade	Algebra I
9th grade	Geometry
10th grade	Algebra II
11th grade	Pre-Calculus
12th grade	Calculus or Statistics

If you are in 8th grade Pre-Algebra, you have several options to choose from:

OPTION 1

8th grade	Pre-Algebra
9th grade	Algebra I
10th grade	Geometry
11th grade	Algebra II
12th grade	Pre-Calculus or Statistics

OPTION 2

8th grade	Pre-Algebra
9th grade	Algebra I-A
10th grade	Algebra I-B
11th grade	Geometry or Consumer Math
12th grade	Algebra II or Consumer Math

OPTION 3

8th grade	Pre-Algebra
9th grade	Algebra I-A
10th grade	Algebra I-B
11th grade	Geometry
12th grade	Algebra II

OPTION 4

8th grade	Pre-Algebra
9th grade	Algebra I-A
10th grade	Algebra I-B
11th grade	Geometry
12th grade	Consumer Math

Mathematics

COURSE:	Algebra I-A
COURSE LENGTH:	One Year
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9 and 10

COURSE DESCRIPTION:

First semester topics: working with rational numbers and integers, writing and evaluating algebraic expressions, solving one-variable equations.

Second semester topics: graphing equations with two variables, slope and rate of change, and writing two-variable linear equations.

SCED Code 02053 Algebra I

The first part in the multi-part sequence of Algebra I. This course generally covers the same topics as the first semester of Algebra I, including the study of properties of rational numbers (i.e., number theory), ratio, proportion, and estimation, exponents and radicals, the rectangular coordinate system, sets and logic, formulas, and solving first degree equations and inequalities.

COURSE:	Algebra I-B
COURSE LENGTH:	One Year
COURSE TYPE:	Elective
PREREQUISITES:	Algebra I-A
GRADE AVAILABILITY:	9, 10, and 11

COURSE DESCRIPTION:

First semester topics: solving linear inequalities, solving systems of equations, working with exponents and square roots.

Second Semester topics: operations with polynomials, factoring polynomials, and working with quadratic equations.

SCED Code 02051 Pre-Algebra

The second part in a multi-part sequence of Algebra I. This course generally covers the same topics as the second semester of Algebra I, including the study of properties of the real number system and operations, evaluating rational algebraic expressions, solving and graphing first degree equations and inequalities, translating word problems into equations, operations with and factoring of polynomials, and solving simple quadratics.

COURSE:	Algebra 1
COURSE LENGTH:	One Year
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9, 10, 11 or 12

COURSE DESCRIPTION:

During the year in algebra, addition, subtraction, division and multiplication of integers and literal terms are stressed. Graphs, formulas, linear equations, fractions, and factoring are important topics. Constants, variables, monomials, exponents, coefficients, binomials, trinomials, and polynomials are terms that are learned. Algebra 1 is strongly recommended for students aspiring to pursue those programs laden with theory-oriented mathematical knowledge: engineers, surveyors, navigators, architects, etc.

SCED Code 02052 Algebra I

Algebra I courses include the study of properties and operations of the real number system; evaluating rational algebraic expressions; solving and graphing first degree equations and inequalities; translating word problems into equations; operations with and factoring of polynomials; and solving simple quadratic equations.

COURSE: **Geometry**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: Algebra I or Algebra I-A & Algebra I-B
GRADE AVAILABILITY: 9, 10, 11, and 12

COURSE DESCRIPTION:

Geometry is the branch of mathematics that deals with lines, points, angles, polygons, circles and other geometric figures. Many of the ideas about these geometric figures are proved true; some are proved to be false. Geometry is training in simple logic and good thinking habits. Appreciation of geometric design and application of true geometric ideas are essential parts of the course. Geometry is strongly recommended for students planning to pursue college and especially for aspiring engineers, surveyors, foresters, artists, navigators, architects, mechanics, etc.

Students who begin high school enrolled in Geometry are expected to take four (4) years of math. In order to be eligible to take Geometry as a freshman, students must have received 70% or above during each semester of Algebra I during their 8th grade year.

SCED Code 02072 Geometry

Geometry courses, emphasizing an abstract, formal approach to the study of geometry, typically include topics such as properties of plane and solid figures; deductive methods of reasoning and use of logic; geometry as an axiomatic system including the study of postulates, theorems, and formal proofs; concepts of congruence, similarity, parallelism, perpendicularity, and proportion; and rules of angle measurement in triangles.

COURSE: **Algebra II**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: Algebra I & Geometry
GRADE AVAILABILITY: 10, 11, and 12

COURSE DESCRIPTION:

This course represents the second year of the college-bound math sequence and gives a more in-depth study of this important segment of mathematics. It is a college preparation course for all students intending to attend college. Special emphasis is placed on the techniques of problem solving, besides the usual techniques of handling such topics as exponents, quadratics, systems of equations, irrational and complex numbers, and graphs.

SCED Code 02056 Algebra II

Algebra II course topics typically include field properties and theorems; set theory; operations with rational and irrational expressions; factoring of rational expressions; in-depth study of linear equations and inequalities; quadratic equations; solving systems of linear and quadratic equations; graphing of constant, linear, and quadratic equations; properties of higher degree equations; and operations with rational and irrational exponents.

COURSE: **Consumer Mathematics**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: General Math and Instructor Approval
GRADE AVAILABILITY: 11 and 12

COURSE DESCRIPTION:

This course is designed for students who have a basic grasp of math computation and want to learn to apply these skills to consumer situations.

First semester topics include earning money, buying food, shopping for clothes, managing a household, buying and maintaining a car, and working with food.

Second semester topics include improving your home, traveling, budgeting, banking and investing and taxes.

SCED Code 02157 Consumer Math

Consumer Math courses reinforce general math topics (such as arithmetic using rational numbers, measurement, ratio and proportion, and basic statistics) and apply these skills to consumer problems and situations. Applications typically include budgeting, taxation, credit, banking services, insurance, buying and selling products and services, home and/or car ownership and rental, managing personal income, and investment.

COURSE: **Statistics**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: Geometry & Algebra 2
GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

This is a course designed for those students wanting math beyond Algebra 2 but not planning to take Calculus in college. It is geared more toward the students who are going into one of the Social Science fields, or into education. It continues to build on the foundation of Algebra 2. Below is a listing of the major topics for Statistics:

Descriptive Statistics, Numerical Data Analysis, Probability, Discrete Probability Distributions, Normal Distribution, Sampling, Estimation, Hypothesis Testing.

SCED Code 02201 Probability and Statistics

Probability and Statistics courses introduce the study of likely events and the analysis, interpretation, and presentation of quantitative data. Course topics generally include basic probability and statistics: discrete probability theory, odds and probabilities, probability trees, populations and samples, frequency tables, measures of central tendency, and presentation of data (including graphs). Course topics may also include normal distribution and measures of variability.

COURSE: **Pre-Calculus**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: Geometry & Algebra 2
GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

This is a course designed for those students needing a fourth year of math and expecting to take Calculus in their first year of college. It is built upon the foundations built in Geometry and Algebra 2. The first semester will cover: Coordinate Geometry, Polynomials, Inequalities, Functions & Exponential & Logarithmic Functions. The second semester will cover: Triangle-based Trigonometry, Circle-based Trigonometry, Advanced Graphing, Conic Sections, Determinants, Series and Sequences. If time allows: Polar Coordinates and Complex Numbers.

SCED Code 02110 Pre-Calculus

Pre-Calculus courses combine the study of Trigonometry, Elementary Functions, Analytic Geometry, and Math Analysis topics as preparation for calculus. Topics typically include the study of complex numbers; polynomial, logarithmic, exponential, rational, right trigonometric, and circular functions, and their relations, inverses and graphs; trigonometric identities and equations; solutions of right and oblique triangles; vectors; the polar coordinate system; conic sections; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; and limits and continuity.

COURSE: **Calculus**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: Pre-Calculus
GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

This course is designed for those students who are planning on taking Calculus in the 1st year of college. The course will introduce the student to terminology and methodology of calculus without going to deeply into theory. The following topics will be covered: Pre-Calculus review, Functions and Graphs, Limits and Continuity, Differentiation, Applications of Differentiation and possibly Integration. This course may be taken pass/fail.

SCED Code 02121 Calculus

Calculus courses include the study of derivatives, differentiation, integration, the definite and indefinite integral, and applications of calculus. Typically, students have previously attained knowledge of pre-calculus topics (some combination of trigonometry, elementary functions, analytic geometry, and math analysis).

SCIENCE

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X				Integrated Science	1 Year	Fall-Spring	2	None
	X			Biology	1 Year	Fall-Spring	2	None
		X	X	Conceptual Chemistry	1 Year	Fall-Spring	2	Integrated Science
	X	X	X	Intro to Chemistry	1 Year	Fall-Spring	2	Algebra I
		X	X	Advanced Chemistry	1 Year	Fall-Spring	2	Intro to Chemistry
		X	X	Physics	1 Year	Fall-Spring	2	Algebra II
		X	X	Anatomy & Physiology	1 Year	Fall-Spring	2	Biology
			X	College Biology	1 Year	Fall-Spring	2	Biology, Anatomy & Physiology

SCIENCE

COURSE:	Integrated Science
COURSE LENGTH:	One Year
COURSE TYPE:	Required
PREREQUISITES:	None
GRADE AVAILABILITY:	9
<u>COURSE DESCRIPTION:</u>	

This introductory science course covers topics in earth science and physics. Emphasis is placed on principles that will be used in later science courses and on the importance of science in our everyday lives. Problem solving, creativity, and communication skills are developed through hands-on projects.

Code 03201 Integrated Science

The specific content of Integrated Science courses varies, but they draw upon the principles of several scientific specialties—earth science and physics—and organize the material around thematic units. Common themes covered include systems, models, energy, investigate applications of the theme.

COURSE:	Biology
COURSE LENGTH:	One Year
COURSE TYPE:	Required
PREREQUISITES:	None
GRADE AVAILABILITY:	10
<u>COURSE DESCRIPTION:</u>	

This course involves the study of living organisms. The topics include cell biology, genetics, biotechnology, evolutionary theory, ecology, biodiversity, microscopic organisms, and invertebrates to mammals. Lab activities and science related careers are included.

SCED Code 03051 Biology

Biology courses are designed to provide information regarding the fundamental concepts of life and life processes. These courses include (but are not restricted to) such topics as cell structure and function, general plant and animal physiology, genetics, and taxonomy.

Course:	Conceptual Chemistry
Course Length:	One Year
Course Type:	Instructor Approval
Prerequisites:	Integrated Science
Grade Availability:	11, 12
<u>Course Description:</u>	

This course concentrates on introductory chemistry concepts such as the study of matter, its composition, properties, and changes in matter. The first semester concentrates on theory related to the structure of matter, the periodic table and chemical reactions. The second semester is more mathematical in nature, concentrating on the mole concept, stoichiometry, heat relationships and equilibrium. Must pass Semester 1 to move on to Semester 2.

SCED Code 03105 Conceptual Chemistry

Conceptual Chemistry courses are practical, non-quantitative chemistry courses designed for students who desire an understanding of chemical concepts and applications

COURSE:	Intro to Chemistry
COURSE LENGTH:	One Year
COURSE TYPE:	Required
PREREQUISITES:	Algebra 1
GRADE AVAILABILITY:	10 (Instructor Approval), 11, 12
<u>COURSE DESCRIPTION:</u>	

Chemistry is the study of matter, its composition and interactions. This course will stress areas in which a college bound student should be prepared as well as giving valuable chemical background to a student. The class is recommended for juniors and seniors but is open to select sophomores. The first semester concentrates on theory related to the structure of matter, the periodic table and chemical reactions. The second semester is more mathematical in nature, concentrating on the mole concept, stoichiometry, heat relationships and equilibrium.

SCED Code 03101 Chemistry

Chemistry courses involve studying the composition, properties, and reactions of substances. These courses typically explore such concepts as the behaviors of solids, liquids, and gases; acid/base and oxidation/reduction reactions; and atomic structure. Chemical formulas and equations and nuclear reactions are also studied.

COURSE: **Advanced Chemistry**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: Intro to Chemistry
GRADE AVAILABILITY: 11, 12

This course is strongly recommended for college bound students who will be pursuing a science-related field such as health, engineering, pharmacy or students with strong science and math skills. Advanced topics include solution chemistry, equilibrium and acid-base chemistry during the first semester. Second semester topics concentrate on oxidation-reduction, electrochemistry, thermodynamics, nuclear chemistry and an introduction to organic chemistry.

SCED Code 03102 Chemistry—Advanced Studies

Usually taken after a comprehensive initial study of chemistry, Chemistry—Advanced Studies courses cover chemical properties and interactions in more detail. Advanced chemistry topics include thermodynamics, electrochemistry, kinetic theory, and nuclear chemistry.

COURSE: **Physics**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: Algebra II
GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

Physics is a physical science related course. It stresses experience in the study of motion, heat, energy, force, light, electricity, thermodynamics, and nuclear physics. Students enrolling in this course should have strong Algebra 2 skills and a genuine interest in a science-related field.

SCED 03151 Physics

Physics courses involve the study of the forces and laws of nature affecting matter, such as equilibrium, motion, momentum, and the relationships between matter and energy. The study of physics includes examination of sound, light, and magnetic and electric phenomena.

COURSE: **Anatomy & Physiology**
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: Biology
GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

This course involves the study of structure and function of the human body. Dissection and lab activities and other activities will be utilized to enhance better understanding of the human body. This course will require additional periods of preparation.

SCED Code 03053 Anatomy & Physiology

Usually taken after a comprehensive initial study of biology, Anatomy and Physiology courses present the human body and biological systems in more detail. In order to understand the structure of the human body and its functions, students learn anatomical terminology, study cells and tissues, explore functional systems (skeletal, muscular, circulatory, respiratory, digestive, reproductive, nervous, and so on), and may dissect mammals.

COURSE: **Introductory Biology (College Biology)**
COURSE LENGTH: One Year
COURSE TYPE: Elective – College Credit-4 Credits
PREREQUISITES: Biology, Anatomy & Physiology
GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

Introductory Biology is a 4- college-credit hour course that is intended for non-science majors. This course will generally meet science elective credit requirements at most colleges. This course is designed to familiarize the student with cellular structure, inheritance, evolution, the organ systems involved in plant and animal nutrition, transport, and reproduction, along with the human nervous system and senses. This course also aids in developing critical thinking skills.

SCED Code 03052C Conceptual Biology

These courses provide students with a basic understanding of living things. Topics covered may include ecology and environmental problems such as overpopulation and pollution as well as cells, types of organisms, evolutionary behavior, and inheritance.

SOCIAL SCIENCE

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
	X	X	X	Contemporary World Issues	1 Semester	Fall	1	None
	X	X	X	World Geography	1 Semester	Spring	1	None
	X	X	X	World Studies I	1 Semester	Fall	1	None
	X	X	X	World Studies II	1 Semester	Spring	1	None
		X		American History	1 Year	Fall/Spring	2	None
			X	Economics	1 Semester	Fall	1	None
			X	American Government	1 Semester	Spring	1	None
		X	X	Psychology	1 Semester	Fall/Spring	1	None
		X	X	Sociology	1 Semester	Fall/Spring	1	None
		X	X	Financial Literacy	1 Semester	Fall/Spring	1	None

SOCIAL SCIENCE

COURSE: **Contemporary World Issues**

COURSE LENGTH: One Semester (Fall)

COURSE TYPE: Elective

PREREQUISITES: None

GRADE AVAILABILITY: 10, 11, and 12

COURSE DESCRIPTION:

Contemporary World Issues courses enable students to study political, economic and social issues facing the world. These courses may focus on current issues, examine selected issues throughout the 20th Century, and look at historical causes or possible solutions.

SCED Code 04064 Contemporary World Issues

Contemporary World Issues courses enable students to study political, economic, and social issues facing the world. These courses may focus on current issues, examine selected issues throughout the 20th century, and look at historical causes and possible solutions.

COURSE: **World Geography**

COURSE LENGTH: One Semester (Spring)

COURSE TYPE: Elective

PREREQUISITES: None

GRADE AVAILABILITY: 10, 11, and 12

COURSE DESCRIPTION:

World Geography will provide students with an overview of world geography. Topics typically include the physical environment, the political landscape, the relationship between people and the land, economic production and development, and the movement of people, goods, and ideas.

SCED Code 04001 World Geography

World Geography courses provide students with an overview of world geography, but may vary widely in the topics they cover. Topics typically include the physical environment; the political landscape; the relationship between people and the land; economic production and development; and the movement of people, goods, and ideas.

COURSE: **World Studies I/World Studies II**

COURSE LENGTH: One Semester Each (Fall/Spring)

COURSE TYPE: Elective

PREREQUISITES: None.

GRADE AVAILABILITY: 10, 11, and 12

COURSE DESCRIPTION:

World Studies is a two semester course that examines the history and cultures of multiple regions of the world. World Studies 1 will start with Mesopotamia and other early civilizations up through the Middle Ages. World Studies 2 will begin with the Renaissance and the age of exploration before moving onto revolution and war.

SCED Code 04061 World Area Studies

World Area Studies courses examine the history, politics, economics, society, and/or culture of one or more regions of the world, such as Africa, Latin America, the former Soviet Union, Far East Asia, and the Middle East. These courses may focus primarily on the history of a particular region or may take an interdisciplinary approach to the contemporary issues affecting the region. Furthermore, these courses may emphasize one particular country (other than the United States), rather than emphasizing a region or continent.

COURSE: **American History**

COURSE LENGTH: One Year

COURSE TYPE: Required

PREREQUISITES: None

GRADE AVAILABILITY:

11

COURSE DESCRIPTION:

This course will provide students with a broad overview of American history. The first semester will focus on history of the United States from the beginnings of European exploration and settlement through Reconstruction. The second semester will pick up where the first semester ended and cover topics such as Westward Expansion, the Great Depression, World War I and II, Civil Rights, and current events in American history. This course will include many hands-on activities to explore the culture, geography, economy, politics, and history of America.

SCED Code 04101 U.S. History—Comprehensive

U.S. History—Comprehensive courses provide students with an overview of the history of the United States, examining time periods from discovery or colonialism through World War II or after. These courses typically include a historical overview of political, military, scientific, and social developments. Course content may include a history of the North American peoples before European settlement.

COURSE:

Economics

COURSE LENGTH:

One Semester (Fall)

COURSE TYPE:

Required

PREREQUISITES:

None

GRADE AVAILABILITY:

12

COURSE DESCRIPTION:

The purpose of this course is to examine personal economic decision-making and the whole economy. Specific objectives will help you understand practical economics and the U.S. system.

SCED Code 04201 Economics

Economics courses provide students with an overview of economics with primary emphasis on the principles of microeconomics and the U.S. economic system. These courses may also cover topics such as principles of macroeconomics, international economics, and comparative economics. Economic principles may be presented in formal theoretical contexts, applied contexts, or both.

COURSE:

American Government

COURSE LENGTH:

One Semester (Spring)

COURSE TYPE:

Required

PREREQUISITES:

None

GRADE AVAILABILITY:

12

COURSE DESCRIPTION:

American Government is intended to give an up-to-date view of the structure and functions of government at the national, state and local levels. The major focus is on the Federal system and the Constitution. Topics include history, the branches of government, as well as current event topics.

SCED Code 04151 U.S. Government—Comprehensive

U.S. Government—Comprehensive courses provide an overview of the structure and functions of the U.S. government and political institutions and examine constitutional principles, the concepts of rights and responsibilities, the role of political parties and interest groups, and the importance of civic participation in the democratic process. These courses may examine the structure and function of state and local governments and may cover certain economic and legal topics.

COURSE:

Psychology

COURSE LENGTH:

One Semester (Fall/Spring)

COURSE TYPE:

Elective

PREREQUISITES:

None

GRADE AVAILABILITY:

11, 12

COURSE DESCRIPTION:

This course looks at behavior from a scientific viewpoint attempting to understand the behavior of individuals. Topics include but are not limited to theories, careers, development, learning, disorders, and personality.

SCED Code 04254 Psychology

Psychology courses introduce students to the study of individual human behavior. Course content typically includes (but is not limited to) an overview of the field of psychology, topics in human growth and development, personality and behavior, and abnormal psychology.

COURSE: **Sociology**
COURSE LENGTH: One Semester (Fall/Spring)
COURSE TYPE: Elective
PREREQUISITES: None.
GRADE AVAILABILITY: 11, 12
COURSE DESCRIPTION:

Sociology offers to the student an opportunity to gain an understanding of human behavior in society. This course provides an overview of sociology, generally including (but not limited to) topics such as social institutions and norms, socialization and social change, and the relationships among individuals and groups in society.

SCED Code 04258 Sociology

Sociology courses introduce students to the study of human behavior in society. These courses provide an overview of sociology, generally including (but not limited to) topics such as social institutions and norms, socialization and social change, and the relationships among individuals and groups in society.

COURSE: **Financial Literacy**
COURSE LENGTH: One Semester (Fall/Spring)
COURSE TYPE: Required
PREREQUISITES: None
GRADE AVAILABILITY: 11, 12
COURSE DESCRIPTION:

Financial Literacy will offer the students an insight into managing their own money. This course will include learning about investments, marketing, insurance and budgeting.

SCED Code 22900 Iowa Financial Literacy Course

This course meets the requirements of Senate file 2415, signed into law, during the 2018 legislative session.

BUSINESS EDUCATION

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X	X	X	X	Introduction to Business	1 Semester	Either	1	None
	X	X	X	Retail Marketing	1 Semester	Fall	1	None
	X	X	X	Business Law	1 Semester	Spring	1	None
	X	X	X	Accounting	1 Year	Fall-Spring	2	None
		X	X	Advanced Accounting	1 Year	Fall-Spring	2	Accounting
X	X	X	X	Computer Applications	1 Semester	Fall	1	None
	X	X	X	Computer Science Principles	1 Semester	Spring	1	None

BUSINESS EDUCATION

COURSE:	Introduction to Business
COURSE LENGTH:	One Semester (Either)
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9, 10, 11, 12

COURSE DESCRIPTION:

Introduction to Business is a course that will prepare students with life skills that are business related. In this class, students will get a better understanding of how their wants and needs influence prices and their roles within our economy. The student will be given help in understanding how to use bank services, insurance and how it protects an individual, and protection against consumer fraud. The class will also provide a hands-on opportunity with managing and reconciling checkbooks in the everyday world.

SCED Code 12051 Introductory Business

Introductory Business courses survey an array of topics and concepts related to the field of business. These courses introduce business concepts such as banking and finance, the role of government in business, consumerism, credit, investment, and management. They usually provide a brief overview of the American economic system and corporate organization. Introductory Business courses may also expose students to the varied opportunities in secretarial, accounting, management, and related fields.

COURSE:	Retail Marketing
COURSE LENGTH:	One Semester (Fall)
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	10, 11, 12

COURSE DESCRIPTION:

Retail Marketing will focus on the field of marketing/merchandising from a business management point-of-view. It will explore various careers, large and small store operations, control and organization, promotion and selling techniques merchandise planning and other related topics.

SCED Code 12161 Retail Marketing

Retail Marketing courses cover marketing principles and concepts related to the provision of goods or services directly to the consumer, emphasizing store operation, advertisement and display of goods, store security, human relations, and business management and ownership.

COURSE:	Business Law
COURSE LENGTH:	One Semester (Spring)
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	10, 11, 12

COURSE DESCRIPTION:

Business Law is the study of laws that affect the student both in and out of school. Business Law will include units on understanding law, law enforcement, contracts, using credit and insurances. Law is necessary for people to live and work together. This is a one-semester class open to juniors and seniors.

SCED Code 12054 Business Law

Business Law courses emphasize legal concepts that are relevant to business and business organizations. Topics examined in these courses typically include contracts, buying/renting property, installment buying, insurance, buyer/seller relationships, negotiable instruments, employment, taxes, insurance, commercial papers, legal organizational structures, and consumer liabilities.

COURSE: Accounting
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: None
GRADE AVAILABILITY: 10, 11, 12

COURSE DESCRIPTION:

Accounting I is a course in which a student will learn basic accounting principles and procedures. Application activities and simulations will be used to demonstrate their knowledge of the accounting cycle. Second semester accounting uses the principles and procedures learned in Accounting I and applies them to larger business situations.

SCED Code 12104 Accounting

Accounting courses introduce and expand upon the fundamental accounting principles and procedures used in businesses. Course content typically includes the full accounting cycle, payroll, taxes, debts, depreciation, ledger and journal techniques, and periodic adjustments. Students may learn how to apply standard auditing principles and to prepare budgets and final reports. Calculators, electronic spreadsheets, or other automated tools are usually used. Advanced topics may include elementary principles of partnership and corporate accounting and the managerial uses of control systems and the accounting process.

COURSE: Advanced Accounting
COURSE LENGTH: One Year
COURSE TYPE: Elective
PREREQUISITES: Accounting
GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

This course will continue to use the accounting principles and procedures learned in Accounting 1 and then apply that knowledge using computerized accounting and business simulations.

SCED Code 12104 Accounting

Accounting courses introduce and expand upon the fundamental accounting principles and procedures used in businesses. Course content typically includes the full accounting cycle, payroll, taxes, debts, depreciation, ledger and journal techniques, and periodic adjustments. Students may learn how to apply standard auditing principles and to prepare budgets and final reports. Calculators, electronic spreadsheets, or other automated tools are usually used. Advanced topics may include elementary principles of partnership and corporate accounting and the managerial uses of control systems and the accounting process.

COURSE: Computer Applications
COURSE LENGTH: One Semester (Fall)
COURSE TYPE: Elective
PREREQUISITES: None
GRADE AVAILABILITY: 9-12

COURSE DESCRIPTION:

This is a course for the student who wants to learn about computers and their uses in today's society. Includes word processing, proper formatting, spreadsheets, and databases.

SCED Code 10005 Business Computer Applications

In Business Computer Application courses, students acquire knowledge of and experience in the proper and efficient use of previously written software packages, particularly those used in the business world. Generally, these courses explore a wide range of applications, including (but not limited to) word-processing, spreadsheets, graphics, and database programs, and they may also cover topics such as electronic mail, desktop publishing, and telecommunications

COURSE: Computer Science Principles
COURSE LENGTH: One Semester (Spring)
COURSE TYPE: Elective
PREREQUISITES: None
GRADE AVAILABILITY: 9-12

COURSE DESCRIPTION:

This course will introduce high school students to the foundations of modern computing by covering a broad range of

foundational topics such as programming, algorithms, the Internet, big data, digital privacy and security, and the societal impacts of computing. Students will be introduced into creating an app and some video production.

SCED Code 10011 Computer Science Principle

Computer Science Principles courses provide students the opportunity to use programming, computational thinking, and data analytics to create digital artifacts and documents representing design and analysis in areas including the Internet, algorithms, and the impact that these have on science, business, and society. Computer Science Principles courses teach students to use computational tools and techniques including abstraction, modeling, and simulation to collaborate in solving problems that connect computation to their lives.

VOCATIONAL AGRICULTURE

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X				Agriculture Education 1	1 Year	Fall -Spring	2	None
	X			Agriculture Education 2	1 Year	Fall -Spring	2	None
		X		Agriculture Education 3	1 Year	Fall -Spring	2	None
			X	Agriculture Education 4	1 Semester	Fall	1	Senior
		X	X	Horticulture	1 Semester	Spring	1	Junior or Senior (preference given to Seniors (12 student max.))
			X	College Animal Science I	1 Semester	Fall	1	Instructor approval
			X	College Ag. Business	1 Semester	Spring	1	Instructor approval

VOCATIONAL AGRICULTURE

COURSE:	Agriculture Education 1
COURSE LENGTH:	One Year
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9

COURSE DESCRIPTION:

The requirements for this course is to become an active FFA member, have a Supervised Agriculture Experience Program or Productive Project, or plans for one by the end of the semester and to maintain a Record Book for the S.A.E. project. Course content is as follows: orientation and relationships of agriculture and agricultural business occupations. Developing leadership through the activities of the FFA, leadership contests, judging contests, and parliamentary procedure. An introduction to supervised farming projects; on-farm and off-farm occupations and learning experiences. Showing and demonstrating the importance of good records and the ability to select good quality livestock. A beginning course in animal nutrition, feeds, and feeding. Swine, beef, dairy, and sheep production and livestock judging. Mini units in horse production, poultry production and career opportunities in agriculture.

SCED Code 18001 Introduction to Agriculture and Natural Resources

Introduction to Agriculture courses survey a wide array of topics within the agricultural industry, exposing students to the many and varied types of agriculture and livestock career opportunities and to those in related fields (such as natural resources). These courses serve to introduce students to the agricultural field, providing them an opportunity to identify an area for continued study or to determine that their interest lies elsewhere. They often focus on developing communication skills, business principles, and leadership skills.

COURSE:	Agriculture Education 2
COURSE LENGTH:	One Year
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	10

COURSE DESCRIPTION:

The requirements for this course are to become an active FFA member, maintain a S.O.E. program or productive project and complete a record book for the S.A.E. Course content is as follows: instruction in the FFA organization, leadership responsibilities, proficiency awards, committee work, state and national activities, maintaining supervised farming programs, record keeping, Ag. Math, weed identification and control, soil identification and management, soil judging, water management, soil fertility and fertilization, soil testing, fertilizer use and recommendation, plant growth and photosynthesis; corn, soybean, small grains, oats, and forage crop production; horticulture, gardens, and home landscaping; parliamentary procedure instruction, group discussion, public and extemporaneous speaking and leadership qualities.

SCED Code 18051 Plant Production/Science

Plant Production/Science courses provide knowledge about the propagation of plants for food and fiber. These courses may cover such topics as soil science, irrigation, pest and weed control, food and fiber processing, and farm operations. They may also cover the knowledge and skills needed to produce all types of crops or may emphasize a particular area of the agricultural industry.

COURSE:	Agriculture Education 3
COURSE LENGTH:	One Year
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	11

COURSE DESCRIPTION:

The requirements for this course are to be an active FFA member and maintain a S.O.E. Course content is as follows: advanced FFA instruction, maintaining supervised farming programs, livestock judging and selection; animal genetics,

breeding and reproduction, artificial insemination techniques, meat science identification, selection, management, nutrition, and judging; farm management-records and analysis, marketing, problems of cropping systems, and livestock systems; forestry production-renovation and construction of farm shelterbelt and field windbreak.

SCED Code 18101 Animal Production/Science

Animal Production/Science courses impart information about the care and management of domestic and farm animals. These courses may cover animal nutrition, health, behavior, selection, reproduction, anatomy and physiology, facilities, product processing, and marketing. Students may study a particular species (swine, cattle, horses, fowl, sheep, and so on), or they may learn how to care for and maintain livestock as a more inclusive study.

COURSE: Agriculture Education 4
COURSE LENGTH: Fall Semester
COURSE TYPE: Elective
PREREQUISITES: Senior
GRADE AVAILABILITY: 12
COURSE DESCRIPTION:

This semester course is designed to emphasize agricultural business management. Students will have hands-on experience with computers and concentrate on the areas of business organization, record keeping and analysis, marketing, credits and finance and taxes.

SCED Code 18204 Particular Topics in Agribusiness

These courses examine specific topics related to Agribusiness, such as international agriculture or commodities, rather than provide a general study of agribusiness principles.

COURSE: Animal Science I
COURSE LENGTH: Fall Semester
COURSE TYPE: Elective
PREREQUISITES: Instructor Approval
GRADE AVAILABILITY: 12
COURSE DESCRIPTION:

This animal science class is a dual credit class in which the students will receive high school credit and three college credits in animal science. This course is designed to provide students with a general overview of the livestock industry. It identifies ways in which domestic animals serves a basic needs of humans for food, fiber, shelter, protection, fuel and emotional well-being. Students will develop an understanding of and be able to apply the basic principles of animal selection, breeding, genetics, feeding, health, and husbandry practices. As a student, you will become familiar with the economics and social issues that confront the livestock industry.

SCED Code 18101 Animal Production/Science

Animal Production/Science courses impart information about the care and management of domestic and farm animals. These courses may cover animal nutrition, health, behavior, selection, reproduction, anatomy and physiology, facilities, product processing, and marketing. Students may study a particular species (swine, cattle, horses, fowl, sheep, and so on), or they may learn how to care for and maintain livestock as a more inclusive study.

COURSE: College Ag. Business
COURSE LENGTH: Spring Semester
COURSE TYPE: Elective
PREREQUISITES: Instructor Approval
GRADE AVAILABILITY: 12
COURSE DESCRIPTION:

This course applies basic economic concepts, principles and practices reflected in agriculture. Students will also reflect on the major components of an agricultural business organization, and the economic fundamentals involved in organizing, operating and managing an agricultural business.

SCED Code 18201 Agribusiness Management

Agribusiness Management courses provide students with the information and skills necessary for success in agribusiness and in operating entrepreneurial ventures in the agricultural industry. These courses may cover topics such as economic principles, budgeting, risk management, finance, business law, marketing and promotion strategies, insurance, and resource management. Other possible topics include developing a business plan, employee/employer relations, problem-

solving and decision-making, commodities, and building leadership skills. These courses may also incorporate a survey of the careers within the agricultural industry.

COURSE:	Horticulture
COURSE LENGTH:	Spring Semester
COURSE TYPE:	Elective
PREREQUISITES:	Junior or Senior
GRADE AVAILABILITY:	11 or 12 preference given to 12 th graders (12 students max.)
<u>COURSE DESCRIPTION:</u>	

This course is an introduction course for students with a strong interest in horticulture. Careers in the industry are covered as well as basic plant systems and pest control. The students will be introduced to the areas of greenhouse management, nursery management, and landscaping. The students will be able to grow their own bedding and ornamental plants and possibly market some plants to the public.

SCED Code 18052 General Horticulture

General Horticulture courses expose students to the art and science of growing plants, shrubs, trees, flowers, fruits, and vegetables. In doing so, they cover a wide variety of topics, including greenhouse and nursery operations, soils and media mixtures, fruit and vegetable production, weed and pest control, and floral design.

FAMILY AND CONSUMER SCIENCE

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X	X	X	X	Foods	1 Semester	Fall	1	None
X	X	X	X	Introduction to Textiles & Interior Design	1 Semester	Spring	1	None
	X	X	X	Textiles and Design	1 Semester	Fall/Spring	1	Introduction to Textiles & Interior Design
	X	X	X	Advanced Foods	1 Semester	Fall	1	Foods
			X	Culinary Arts	1 Semester	Spring	1	Advanced Foods
		X	X	Personal & Family Relations	1 Semester	Fall	1	Preference Given to Juniors & Seniors
	X	X	X	Child Development	1 Semester	Spring	1	None
		X	X	Advanced Health	1 Semester	Spring	1	Preference Given to Juniors & Seniors

FAMILY AND CONSUMER SCIENCE

COURSE:	Foods
COURSE LENGTH:	One Semester (Fall)
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9, 10, 11, and 12

COURSE DESCRIPTION:

Foods is a study of management skills, nutrition, food preparation, consumer issues, working with others and developing oneself. Activities will emphasize nutrition and food preparation integrated with consumer and personal skills. Foods is a prerequisite for Advanced Foods.

SCED Code 19252 Food Preparation & Health Management

Formerly known as Food and Nutrition, Food Preparation and Health Management courses provide students with an understanding of food's role in society, instruction in how to plan and prepare meals, and information about the nutritional and health benefits of minimizing processed and prepared food and prepackaged/prepared meals from one's diet. These courses not only build on the basic skills of food preparation but also address financial considerations and recipe conversion to make foods healthier. Some courses place a heavier emphasis on balanced diet, while others concentrate on specific types of food preparation (such as low sodium, low fat, or increased whole foods). These courses will also address current issues such as organic foods and vegan cooking.

COURSE:	Introduction to Textiles & Interior Design
COURSE LENGTH:	One Semester (Spring)
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9, 10, 11, and 12

COURSE DESCRIPTION:

Are you ready for a makeover? Introduction to Textiles & Interior Design gives you the skills to use elements and principles of design to help you select clothing, to enhance your looks, or makeover your room. Learn sewing skills to make a pair of lounge pants and possibly a pillow for the room that you design in your room makeover project. Learn about fabrics and their care. Introduction to Textiles & Interior Design is a prerequisite for Textiles and Design.

SCED Code 19256 Life Skills

Life Skills courses provide students with information about a wide range of subjects to assist them in becoming wise consumers and productive adults. These courses often emphasize process skills, including goal-setting, decision-making, and other topics such as the setting of priorities, money and time management, interpersonal relationships, and the development of the self. Additionally, specific topics such as wellness, selecting and furnishing houses, meeting transportation needs, nutrition, preparing food, selecting clothing and building a wardrobe, insurance, taxation, and consumer protection may also be covered.

COURSE:	Textiles and Design
COURSE LENGTH:	One Semester (Fall or Spring)
COURSE TYPE:	Elective
PREREQUISITES:	Introduction to Textiles & Interior Design
GRADE AVAILABILITY:	10, 11, and 12

COURSE DESCRIPTION:

This course is designed for students who have interests in the fields of clothing or interior design, textile merchandising (home interiors or fashion retail), or construction (sewing). Students will complete individual projects in design or construction. Students will practice both sewing and designing by completing individual projects.

SCED Code 19256 Clothing/Sewing

Clothing/Sewing courses introduce students to and expand their knowledge of various aspects of wearing apparel, sewing, and fashion. These courses typically include wardrobe planning; selection, care, and repair of various materials; and construction of one or more garments. They may also include related topics, such as fashion design and history, the social and psychological aspects of clothing, careers in the clothing industry, and craft sewing.

COURSE: **Advanced Foods**
COURSE LENGTH: One Semester (Fall)
COURSE TYPE: Foods
GRADE AVAILABILITY: 10, 11, and 12
COURSE DESCRIPTION:

Learn to plan, prepare and serve foods for families and friends. Students will apply an understanding of nutrition and practice food preparation. Food preparation will include cooking on the grill, buying and preparing meat, frying, baking, making and decorating cakes and cookies, bread, homemade pies, candy, salads, vegetables, etc. Students will plan and prepare menus for family meals, and special events following dietary guidelines. Students will compare products to assist in making improved food selections. Advanced Foods also operates The Cardinal Café. Students will work in the café throughout the semester.

SCED Code 19252 Food Preparation and Health Management

Formerly known as food and Nutrition, Food Preparation and Health Management courses provide students with an understanding of food's role in society, instruction in how to plan and prepare meals, and information about the nutritional and health benefits of minimizing processed and prepared food and prepackaged/prepared meals from one's diet. These courses not only build on the basic skills of food preparation but also address financial considerations and recipe conversion to make foods healthier. Some courses place a heavier emphasis on a balanced diet, while others concentrate on specific types of food preparation (such as low sodium, low fat, or increased whole foods). These courses will also address current issues such as organic foods and vegan cooking.

COURSE: **Culinary Arts**
COURSE LENGTH: 1 Semester (Spring)
COURSE TYPE: Elective
PREREQUISITES: Advanced Foods
GRADE AVAILABILITY: 12
COURSE DESCRIPTION:

Limited to seniors who have satisfactorily completed Advanced Foods or by teacher approval. Culinary Arts is a lab-based class for students to plan, purchase, prepare and present foods for personal and public events. Students will learn hospitality skills, etiquette, food presentation, and entrepreneurial skills related to the restaurant industry as they plan and prepare foods. Students in Culinary Arts will work in The Cardinal Café during second semester.

SCED Code 19252 Food Preparation and Health Management

Formerly known as food and Nutrition, Food Preparation and Health Management courses provide students with an understanding of food's role in society, instruction in how to plan and prepare meals, and information about the nutritional and health benefits of minimizing processed and prepared food and prepackaged/prepared meals from one's diet. These courses not only build on the basic skills of food preparation but also address financial considerations and recipe conversion to make foods healthier. Some courses place a heavier emphasis on a balanced diet, while others concentrate on specific types of food preparation (such as low sodium, low fat, or increased whole foods). These courses will also address current issues such as organic foods and vegan cooking.

COURSE: **Personal and Family Relationships**
COURSE LENGTH: One Semester (Fall)
COURSE TYPE: Elective
PREREQUISITES: None
GRADE AVAILABILITY: 11, 12
COURSE DESCRIPTION:

Personal Family Relations is designed to encourage personal growth and strong relationships. Emphasis is on personal, family and, social relationships. Topics include understanding oneself, positive communication skills, developing relationships, friends, dating, love and infatuation, family crisis and personal loss. Students will also interact with residents of the Concord Care Center throughout the semester.

SCED Code 19259 Family and Interpersonal Relationships

Formerly known as Family Living, Family and Interpersonal Relationships courses emphasize building and maintaining healthy interpersonal relationships among family members and other members of society. These courses often emphasize (but are not limited to) topics such as the responsibilities of a family and wage earner, balancing a career and personal life, human sexuality and reproduction, marriage preparation, parenthood and the function of the family unit, the family life cycle, and life stages. They also cover topics related to stages of growth and social/dating practices.

COURSE: **Child Development**
COURSE LENGTH: One Semester (Spring)
COURSE TYPE: Elective
PREREQUISITES: None
GRADE AVAILABILITY: 10, 11, 12

COURSE DESCRIPTION:

Child Development is the study of human growth and development from conception to school age. This course helps students understand how children grow and change, what children need at each stage of development, guidance techniques, and to know what makes an individual the person they are. This is an important foundation for students interested in teaching, medical careers, or any career which puts one in contact with children. Students practice child care with infant simulators, observe early childhood programs and host a play day as a part of this course.

SCED Code 19255 Child Development/Parenting

Child Development/Parenting courses provide students with knowledge about family systems and relationships and information about how parents can address the physical, mental, emotional, and social growth and development of children from conception to adolescence. In addition, these courses help students discover how parents should respond to the various stages of childhood. Course content typically includes topics such as prenatal development and birth processes, responsibilities and difficulties of parenthood, family structures, societal and cultural influences, fundamentals of children's emotional and physical development, and the appropriate care of infants, toddlers, and young and school-aged children. These courses may also cover topics specific to teen parenting.

INDUSTRIAL TECHNOLOGY EDUCATION

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X	X	X	X	Introduction to Drafting & Design	1 Semester	Fall-Spring	1	None
X (S2)	X	X	X	Industrial Design, Layout & Assembly 1	1 Semester	Fall-Spring	1	Introduction to Drafting & Design
	X	X	X	Industrial Design, Layout & Assembly 2	1 Semester	Fall-Spring	1	Industrial Design, Layout & Assembly 1
	X	X	X	Industrial Design, Layout & Assembly 3	1 Semester	Spring	1	Industrial Design, Layout & Assembly 1 & 2
X	X	X	X	Beginning Woods	1 Semester	Fall-Spring	1	None
	X	X	X	Advanced Woods	1 Semester	Fall-Spring	1	Beginning Woods & Introduction to Drafting
X	X	X	X	Beginning Metals	1 Semester	Fall-Spring	1	None
	X	X	X	Advanced Metals	1 Semester	Fall-Spring	1	Beginning Metals & Introduction to Drafting
		X	X	Power Mechanics	1 Semester	Spring	1	Introduction to Drafting & Design
		X	X	Equipment Refinishing	1 Semester	Fall	1	Beginning Metals & Intro to Drafting
		X	X	Beginning Manufacturing	1 Semester	Spring	1	Advanced Metals
		X	X	Beginning Carpentry	1 Semester	Fall	1	Advanced Woods

INDUSTRIAL TECHNOLOGY EDUCATION

COURSE: Introduction to Drafting and Design

COURSE LENGTH: One Semester (Either)

COURSE TYPE: Elective

PREREQUISITES: None

GRADE AVAILABILITY: 9,10,11,12

COURSE DESCRIPTION:

Introduction to Drafting and Design provides instruction in basic drafting, and Solid Works techniques. This course has been designed to make drafting meaningful and challenging to the student. In drafting, the student will spend time on: drafting equipment, vocabulary terms, careers (real-world examples), lettering, dimensioning, orthographic drawings, and isometric drawings. Also, through the course of the semester the student will be exposed to our CAD program (SolidWorks) in which the student will create detailed 3-D images and assemblies.

SCED Code 21101 Drafting Careers Exploration

Geared for students with an interest in careers that use drafting skills and applications, Drafting Careers Exploration courses expose students to the opportunities available for draftspeople (engineering, architectural, industrial, and so on). These courses serve to introduce basic skills and the field in general, providing students with the opportunity to identify a focus for continued study or to determine that their interests lie elsewhere.

COURSE: Industrial Design, Layout, and Assembly 1 (CAD)

COURSE LENGTH: One Semester (Either)

COURSE TYPE: Elective

PREREQUISITES: Introduction to Drafting & Design

GRADE AVAILABILITY: 9 (2nd Sem), 10, 11, 12

COURSE DESCRIPTION:

This class is geared for students ranging from freshman to seniors. With the experience of drafting, students will be able to maximize their proficiency in this course. Throughout this course students will become familiar with a variety of CAD software and equipment available in industry. Students will make simple projects using the plasma cam and vinyl cutter. Students will also learn how to use more advanced features available in the SolidWorks software.

SCED Code 21107 CAD Design and Software

Frequently offered as an intermediary step to more advanced drafting courses (or as a concurrent course), CAD Design and Software courses introduce students to the computer-aided drafting systems available in the industry.

COURSE: Industrial Design, Layout, and Assembly 2 (CAD)

COURSE LENGTH: One Semester (Either)

COURSE TYPE: Elective

PREREQUISITES: Industrial Design, Layout & Design

GRADE AVAILABILITY: 10, 11, 12

COURSE DESCRIPTION:

This course continues to work with the utilization of various CAD software, which will aid students in the design, layout, and assembly of various projects. Throughout the course, the student will be expected to think at a higher level pertaining to items such as assembly of parts, and the final design. Another key area will be related to the design of the school house for the following school year using "Chief Architect" program. Once the house is designed, students will use the laser engraver/cutter to construct a model of the house they designed.

SCED Code 21107 CAD Design and Software

Frequently offered as an intermediary step to more advanced drafting courses (or as a concurrent course), CAD Design and Software courses introduce students to the computer-aided drafting systems available in the industry.

COURSE: Industrial Design, Layout, and Assembly 3 (CAD)

COURSE LENGTH: One Semester (Spring)

COURSE TYPE: Elective

PREREQUISITES: Industrial Design, Layout & Design 1 & 2

GRADE AVAILABILITY: 10, 11, 12

COURSE DESCRIPTION:

This course continues to work with the utilization of various CAD software, which will aid students in the design, layout, and assembly of various projects. Throughout the course, the student will be expected to think at a higher level pertaining to items such as assembly of parts, and the final design. Another key area will be related to the design of the school house for the following school year using "Chief Architect" program. Once the house is designed, students will use the laser engraver/cutter to construct a model of the house they designed.

SCED Code 21107 CAD Design and Software

Frequently offered as an intermediary step to more advanced drafting courses (or as a concurrent course), CAD Design and Software courses introduce students to the computer-aided drafting systems available in the industry.

COURSE: Beginning Woods

COURSE LENGTH: One Semester (Either)

COURSE TYPE: Elective

PREREQUISITES: None

GRADE AVAILABILITY: 9-12

COURSE DESCRIPTION:

Beginning Woods is designed to assist the student in learning the fundamentals of working safely and efficiently with basic power tools. In addition, the student will become familiar with the different types of woods and basic joinery. Required projects as well as student-selected projects will be made.

SCED Code 17006 Woodworking

Woodworking courses introduce students to the various kinds of woods used in industry and offer experience in using selected woodworking tools. Students design and construct one or more projects and may prepare a bill of materials. Correct and safe use of tools and equipment is emphasized. As students advance, they focus on learning the terminology necessary to use power tools successfully, developing skills to safely use these tools in the workshop and becoming familiar with various kinds of wood-finishing materials. Advanced students typically design a project, prepare bills of materials, construct, and finish proposed projects.

COURSE: Advanced Woods

COURSE LENGTH: One Semester (Either)

COURSE TYPE: Elective

PREREQUISITES: Beginning Woods, Introduction to Drafting/Design

GRADE AVAILABILITY: 10-12

COURSE DESCRIPTION:

Advanced Woods will continue to cover the area of machine woodworking. Time will be spent on machine operations and safety, furniture design and construction, as well as advanced joinery, turning on the lathe, and finishing. Required exercises and student-selected projects will be made – maximum 12 per section.

SCED Code 17006 Woodworking

Woodworking courses introduce students to the various kinds of woods used in industry and offer experience in using selected woodworking tools. Students design and construct one or more projects and may prepare a bill of materials. Correct and safe use of tools and equipment is emphasized. As students advance, they focus on learning the terminology necessary to use power tools successfully, developing skills to safely use these tools in the workshop and becoming familiar with various kinds of wood-finishing materials. Advanced students typically design a project, prepare bills of materials, construct, and finish proposed projects.

COURSE: Beginning Metals

Course Length: One Semester (Either)

Course Type: Elective

Prerequisites: None

Grades 9-12

COURSE DESCRIPTION:

Students will learn the safe use of hand tools used in metalworking. Time will be spent studying safety, hand tools, sheet metal work, arc welding, MIG welding, oxy-acetylene welding cutting and brazing. There will be required exercises in each area. One local plant or supplier tour will be scheduled during the semester to allow students to see local opportunities in the metal working field.

SCED Code 13202 Metalworking

Metalworking courses introduce students to the qualities and applications of various metals and the tools used to manipulate and form metal into products. Through one or more projects involving metals, students develop planning, layout, and measurement skills; gain experience in cutting, bending, forging, casting, and/or welding metal; complete projects according to blueprints or other specifications; and may also learn to polish and finish metals. Correct use of metalworking tools and equipment is stressed.

COURSE: Advanced Metals

Course Length: One Semester (Either)

Course Type: Elective

Prerequisites: Beginning Metals and Introduction To Drafting & Design

Grades 10-12

COURSE DESCRIPTION:

Students will study the various machines used in the metal shop. Time will be spent on the safe and efficient operation of these machines. Areas to be covered will be foundry, forging, heat treatment, machine work, Aluminum MIG welding and TIG welding. Basic metal exercises and selected projects will be done. Students will have some choice of individual projects that will be completed during the semester.

SCED Code 13202 Metalworking

Metalworking courses introduce students to the qualities and applications of various metals and the tools used to manipulate and form metal into products. Through one or more projects involving metals, students develop planning, layout, and measurement skills; gain experience in cutting, bending, forging, casting, and/or welding metal; complete projects according to blueprints or other specifications; and may also learn to polish and finish metals. Correct use of metalworking tools and equipment is stressed.

COURSE: Power Mechanics

COURSE LENGTH: One Semester (Spring)

COURSE TYPE: Elective

PREREQUISITES: Introduction to Drafting and Design

GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

This course will provide approximately nine weeks of study on gas engines. The function, tear-down and rebuilding procedures will be covered. Students work in groups of two always with the same partner in each section. The second nine weeks consists of auto tune-up, trouble shooting, maintenance and winterizing. Basic automobile care will be covered. This course is open to senior boys and girls and also juniors who have been approved to participate in the NIACC ACADEMY program. We cover overhauling, parts, functions, disassembly and assembly, brakes, alternators, starters, carburetors, lubrication and more. Projects for the semester will be to rebuild a car, tractor or truck (2 or 3 students per group) and to have it running upon completion of the semester.

SCED Code 20102 Power and Mechanics

Power and Mechanics courses enable students to understand the principles underlying various kinds of mechanics (aircraft, auto, diesel, and marine) and how energy is converted, transmitted, and controlled. Topics typically include maintaining and servicing machines, engines, and devices while emphasizing energy sources, electricity, and power transmission. The courses may also provide information on career opportunities within the field of mechanics and/or transportation.

COURSE: Equipment Refinishing

COURSE LENGTH: One Semester (Fall)

COURSE TYPE: Elective

PREREQUISITES: Intro. To Drafting & Design and Beginning Metals

GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

This course will provide students with general knowledge of auto body. The students will cover units in body shop operation, auto body shop safety practices, and they will have time to either work on their own or schools projects. The students will learn about surface preparation on different materials. They will learn about refinishing materials, they will learn how to apply different finishing materials. We will also have the unit on custom painting and body designs. We will discuss different careers opportunities in the auto body field.

SCED Code 20116 Automotive Body Repair and Refinishing—Comprehensive

Automotive Body Repair and Refinishing courses provide students with knowledge and skills regarding the repair and refinishing of damaged or used cars. Course content may include (but is not limited to) stretching and shrinking auto body sheet metal; welding skills; frame and metal straightening; repair of fiberglass and synthetic materials; removing, repairing, and installing auto body parts such as panels, hoods, doors, and windows/glass; preparing vehicles and vehicle surfaces for refinishing; painting; applying body fillers; and estimating material and labor costs.

COURSE: Beginning Manufacturing

COURSE LENGTH: One Semester (2nd Semester)

COURSE TYPE: Elective

PREREQUISITES: Advanced Metals

GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

Beginning Manufacturing is an introductory course to manufacturing practices and principles. Students will be introduced to various methods used to process and transform materials. Process techniques covered include: forming, separating, assembling and finishing. Other topics will include management techniques in planning, organizing and controlling various segments of the manufacturing process including design, engineering, production, and marketing. This course will help prepare students for dual enrollment or post-secondary trades courses or work experiences.

SCED Code 13002 Manufacturing—Comprehensive

Manufacturing—Comprehensive courses introduce students to various methods used to process and transform materials. Processing techniques covered usually include casting, forming, separating, assembling, and finishing. The courses may also include an overview of management techniques in planning, organizing, and controlling various segments of the manufacturing process, including design, engineering, production, and marketing.

COURSE: Beginning Carpentry

COURSE LENGTH: One Semester (1st Semester)

COURSE TYPE: Elective

PREREQUISITES: Advanced Woods

GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

Students will be introduced to common carpentry tools, materials, and practices throughout this class. Students will work on small scale projects as they are introduced to basic carpentry philosophies. This course will help prepare students for dual enrollment or post-secondary trades courses or work experiences.

SCED Code 17004 Framing Carpentry

Framing Carpentry courses provide students with much of the same knowledge as general carpentry courses (knowledge of various types and grades of woods, proper and safe use of hand and power tools, and site selection and preparation), but place a special emphasis on construction methods applicable to floor, wall, roof, and or stair framing. Course content may also include insulation installation and painting.

CREATIVE & FINE ARTS

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X	X	X	X	Foundations of Art 1	1 Semester	Fall	1	None
X	X	X	X	Foundations of Art 2	1 Semester	Spring	1	None
	X	X	X	Creative Drawing	1 Semester	Fall	1	Foundations of Art 2
	X	X	X	Ceramics	1 Semester	Spring	1	Foundations of Art 1 or 2 or a Senior
	X	X	X	Painting	1 Semester	Spring	1	Creative Drawing
	X	X	X	Sculpture	1 Semester	Fall	1	Foundations of Art 1 or 2
		X	X	Photography	1 Semester	Spring	1	Junior or Senior (Graphic Design)
		X	X	Graphic Design	1 Semester	Fall	1	Junior or Senior
		X	X	Art Portfolio	1 Semester	Spring	1	Foundations of Art 1 or 2, Creative Drawing & Painting

CREATIVE & FINE ARTS

COURSE:	Foundations of Art 1
COURSE LENGTH:	One Semester (Fall)
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9-12
<u>COURSE DESCRIPTION:</u>	

This course is a semester course that provides the best learning when taken in sequence. The semester involves basic introduction to the elements and principles of design while exploring different types of media. This course is open to all students without prerequisite.

SCED Code 05154 Creative Art—Comprehensive

Creative Art—Comprehensive courses provide students with the knowledge and opportunity to explore an art form and to create individual works of art. These courses may also provide a discussion and exploration of career opportunities in the art world. Initial courses cover the language, materials, and processes of a particular art form and the design elements and principles supporting a work of art. As students advance and become more adept, the instruction regarding the creative process becomes more refined, and students are encouraged to develop their own artistic styles. Although Creative Art courses focus on creation, they may also include the study of major artists, art movements, and styles.

COURSE:	Foundations of Art 2
COURSE LENGTH:	One Semester (Spring)
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9-12
<u>COURSE DESCRIPTION:</u>	

This course is a semester course that provides the best learning when taken in sequence. The semester involves use of media while exploring art history and careers in the arts. This course is open to all students without prerequisite.

SCED Code 05155 Creative Art—Drawing/Painting

Creative Art—Drawing/Painting courses cover the same topics as Creative Art—Comprehensive courses, but focus on drawing and painting. In keeping with this attention on two-dimensional work, students typically work with several media (such as pen-and-ink, pencil, chalk, watercolor, tempera, oils, acrylics, and so on), but some courses may focus on only one medium.

COURSE:	Creative Drawing
COURSE LENGTH:	One Semester (Fall)
COURSE TYPE:	Elective
PREREQUISITES:	Foundations of Art 2
GRADE AVAILABILITY:	10-12
<u>COURSE DESCRIPTION:</u>	

This first semester course is available to students who have successfully completed both semesters of Foundations of Art. Learn the psychology of drawing using the right side of your brain. Find out what drawing methods work best for you while exploring contour, still life, figures, and perspective drawing.

SCED Code 05156 Creative Art—Drawing

Creative Art—Drawing courses cover the same topics as Creative Art—Drawing/Painting, but focus on drawing. In keeping with this attention on two-dimensional work, students typically work with several media (such as pen-and-ink, pencil, chalk, and so on), but some courses may focus on only one medium.

COURSE: **Ceramics**
COURSE LENGTH: One Semester (Spring)
COURSE TYPE: Elective
PREREQUISITES: Foundations of Art 1 or 2 (except for graduating seniors)
GRADE AVAILABILITY: 10-12
COURSE DESCRIPTION:

This second semester course involves the study of clay and its properties. Students will learn hand building methods such as pinch, coil, drape, and slab construction. Students will also experience throwing pottery on the wheel and the use of an extruder. Students will learn and choose from various methods of applying color.

SCED Code 05159 Creative Art—Sculpture

Creative Art—Sculpture courses cover the same topics as Creative Art—Comprehensive courses, but focus on creating three-dimensional works. Students typically work with several media (such as clay, ceramics, wood, metals, textiles, and so on), but some courses may focus on only one medium.

COURSE: **Painting**
COURSE LENGTH: One Semester (Spring)
COURSE TYPE: Elective
PREREQUISITES: Creative Drawing
GRADE AVAILABILITY: 10-12
COURSE DESCRIPTION:

This second semester course requires Creative Drawing as a prerequisite. Painting is explored as a means of communication while students learn about the media of watercolor, acrylic, and pastel painting. Color theory is covered as well as different media tricks and techniques.

SCED Code 05157 Creative Art—Painting

Creative Art—Painting courses cover the same topics as Creative Art—Drawing/Painting, but focus on painting. In keeping with this attention on two-dimensional work, students typically work with several media (such as watercolor, tempera, acrylics, and so on), but some courses may focus on only one medium.

COURSE: **Graphic Design**
COURSE LENGTH: One Semester (Fall)
COURSE TYPE: Elective
PREREQUISITES: Junior or Senior
GRADE AVAILABILITY: 11-12
COURSE DESCRIPTION:

This semester course will concentrate on the fast growing field of commercial art. Students will work with Adobe Photoshop CS5 to create the type of art that we are bombarded with in our everyday lives.

SCED Code 05162 Graphic Design

Graphic Design courses emphasize design elements and principles in the purposeful arrangement of images and text to communicate a message. They focus on creating art products such as advertisements, product designs, and identity symbols. Graphic Design courses may investigate the computer's influence on and role in creating contemporary designs and provide a cultural and historical study of master design works of different periods and styles.

COURSE: **Sculpture**
COURSE LENGTH: One Semester (Fall)
COURSE TYPE: Elective
PREREQUISITES: Foundations of Art 1 or 2
GRADE AVAILABILITY: 10-12

COURSE DESCRIPTION:

The first semester course requires Foundations of Art as a prerequisite. Sculpture explores the concepts of form and balance while creating three-dimensional works of art.

A variety of media will be explored including clay, wire, wood, paper mache', plaster, and found objects. Students will learn about various sculptors and their work.

SCED Code 05158 Creative Art—Sculpture

Creative Art—Sculpture courses cover the same topics as Creative Art—Comprehensive courses, but focus on creating three-dimensional works. Students typically work with several media (such as clay, ceramics, wood, metals, textiles, and so on), but some courses may focus on only one medium.

COURSE:	Photography
COURSE LENGTH:	One Semester (Spring)
COURSE TYPE:	Elective
PREREQUISITES:	Junior or Senior (Graphic Design)
GRADE AVAILABILITY:	11, 12

COURSE DESCRIPTION:

The first semester course will cover how cameras work and how to produce better pictures using photographic elements of composition. The development of photography and how it has affected our history will also be covered. Students must have access to a digital camera or cell phone camera to use.

SCED Code 05167 Photography

Photography courses expose students to the materials, processes, and artistic techniques of taking artistic photographs. Students learn about the operation of a camera, composition, lighting techniques, filters, and camera angles. The course may cover black-and-white photography, color photography, or both. As students advance, the instruction regarding the creative process becomes more refined, and students are encouraged to develop their own artistic style. These courses may also cover major photographers, art movements, styles, and careers in photography.

COURSE:	Art Portfolio
COURSE LENGTH:	One Semester (Spring)
COURSE TYPE:	Elective
PREREQUISITES:	Foundations of Art 1 or 2, Creative Drawing & Painting
GRADE AVAILABILITY:	11, 12

COURSE DESCRIPTION:

An upper level course designed for the student who wishes to further develop skills and techniques that were introduced in previous drawing and painting courses. This is a desirable course for any student wishing to develop a portfolio for college. Students will be continually encouraged to expand their creative ideas as well as their technical potential.

SCED Code 05170 Art Portfolio

Art Portfolio courses offer students the opportunity to create a professional body of work that reflects their personal style and talent. Students are often encouraged to display their work publicly.

VOCAL MUSIC

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X	X	X	X	Vocal Music	1 Year	Fall –Spring	1	None

VOCAL MUSIC

COURSE:	Vocal Music
COURSE LENGTH:	One Year
COURSE TYPE:	Elective
PREREQUISITES:	None
GRADE AVAILABILITY:	9-12
<u>COURSE DESCRIPTION:</u>	

The GHV HS Vocal Music program is divided into two large performing groups: Concert Choir (includes juniors and seniors and meets daily) and Mixed Chorus (includes freshmen and sophomores and meets daily). Students in these groups are required to attend scheduled lessons and various concerts during the year.

In addition, there is an extra-curricular, select group. Impulse, a Vocal Jazz Choir, meets before school and performs at various concerts and added programs and contests. Special auditions are conducted to identify participants. (Students enrolled in Mixed or Concert Choir).

In the fall, a big emphasis is put on All-State auditions. Seven mixed quartets may audition from any school. If students are selected, they spend a weekend in Ames rehearsing and performing in the honor choir. The music used in the audition is extremely difficult. Those students who are willing to spend many hours on the music are encouraged to audition.

In the spring, a large amount of the work centers on preparation for solo/ensemble contests. Many small ensembles and soloists compete in this event with rehearsals arranged before and after school.

Several students will be selected throughout the year to attend various choir festivals. This gives students a chance to hear other singers and performing groups from various colleges and high schools. Students also have the opportunity to sing with other vocalists in a mass choir and have other choral director's work with them. Every four years there is a trip planned.

SCED 05110 Chorus

Chorus courses provide the opportunity to sing a variety of choral literature styles for men's and/or women's voices and are designed to develop vocal techniques and the ability to sing parts.

SCED Code 05111 Vocal Ensembles

Vocal Ensemble courses are intended to develop vocal techniques and the ability to sing parts in small ensemble or madrigal groups. Course goals may include the development of solo singing ability and may emphasize one or several ensemble literature styles.

INSTRUMENTAL MUSIC

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X	X	X	X	Instrumental Music	1 Year	Fall-Spring	1	None

INSTRUMENTAL MUSIC

COURSE:

Instrumental Music

Marching Band, Concert Band, Jazz Band, Pep Band

COURSE LENGTH:

One Year

COURSE TYPE:

Elective

CREDIT:

½ credit per semester completed

GRADE AVAILABILITY:

9-12

PREREQUISITES: Membership in the instrumental music department, concert band, and marching band. Members study and perform with instruments traditionally used in marching and concert band literature. Attendance at all practices and performances is mandatory

COURSE DESCRIPTION:

The instrumental music department consists of various performing groups including concert band and marching band and other groups formed from the members of these two groups.

During the fall season, the **marching band** holds a minimum of three required practices before the beginning of the first quarter of classes. Attendance is required at one morning rehearsal each week at 7:15 a.m. during the entire marching season. Additional morning rehearsals required for Percussion. The marching band requires attendance at each home football game performance and at two marching festivals/competitions.

At the conclusion of the marching season, **concert band** begins and meets daily throughout each six-day cycle performing with traditional concert band instruments. Sectionals have been held one day per cycle. The concert band offers four concerts per year as well as performing in the state large group contest. Membership in the concert band also includes opportunities to perform a solo and/or perform in a small ensemble at the state music contest.

Each year at the close of the marching band season a **jazz ensemble** is formed which is made up of members of the marching and concert bands. The ensemble uses traditional jazz instrumentation (5 saxes, 4 trombones, 5 trumpets, bass, set percussion, and piano). The members are selected by the director and auditions will be held for chair placement according to need and interest.

The jazz ensemble meets on Monday and Wednesday mornings. The jazz ensemble presents four concerts, and performs in 2-3 jazz festivals each year. Attendance at all rehearsals and performances is mandatory and expected.

Each year **two pep bands** are formed from the membership of the concert band using traditional marching and concert band instruments. The pep bands perform at a stated minimum number (8) of home basketball games.

Every four years an **instrumental music trip** is planned. Students and parents are encouraged to plan financially for this travel opportunity.

SCED Code 05101 General Band

General Band courses develop students' technique for playing brass, woodwind, and percussion instruments and cover a variety of non-specified band literature styles (concert, marching, orchestral, and modern styles).

HEALTH AND PHYSICAL EDUCATION

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X				Health/CPR	1 Semester	Fall or Spring	1	None
		X	X	Advanced Health	1 Semester	Spring	1	Health
X	X	X	X	Physical Education	1 Year	Fall-Spring	½ Per Semester	None
X	X	X	X	Strength Training Physical Education	1 Year	Fall-Spring	½ Per Semester	None

HEALTH & PHYSICAL EDUCATION

COURSE: Health/CPR
COURSE LENGTH: One Semester (Either)
COURSE TYPE: Required
PREREQUISITES: None
GRADE AVAILABILITY: 9

COURSE DESCRIPTION:

Each student will successfully complete one semester of health during the freshman year. The course consists of health units including wellness improvement, body image issues, nutrition, emotional health, social health and relationships, diseases, drugs, consumer health and CPR/first aid. CPR certification is available to students. Students will also become aware of current trends in health as they pertain to themselves, their community, country and the world. It is the intent of the course to give a knowledge base on health issues to enable them each to make wise, healthy decisions.

SCED Code 08051 Health Education

Topics covered within Health Education courses may vary widely, but typically include personal health (nutrition, mental health and stress management, drug/alcohol abuse prevention, disease prevention, and first aid) and consumer health issues. The courses may also include brief studies of environmental health, personal development, and/or community resources.

COURSE: Advanced Health
COURSE LENGTH: One Semester (Spring)
COURSE TYPE: Elective
PREREQUISITES: Health
GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

This course consists of in-depth health issues that surround our society today, including healthy relationships, nutrition and diet myths, personal health, medical terms, and sex education.

SCED Code 08051 Health Education

Topics covered within Health Education courses may vary widely, but typically include personal health (nutrition, mental health and stress management, drug/alcohol abuse prevention, disease prevention, and first aid) and consumer health issues. The courses may also include brief studies of environmental health, personal development, and/or community resources.

COURSE: Physical Education
COURSE LENGTH: One Year
COURSE TYPE: Required
PREREQUISITES: None
GRADE AVAILABILITY: 9-12

COURSE DESCRIPTION:

The philosophy of physical education is to target all students and offer to them a wide variety of activities and various types of exercise. This will enable them to find a type that they will do for their lifetime exercise. Throughout the physical education classes, the students work to increase their personal level of fitness. This combination gives them the opportunity to exercise for their present health as well as plan for their future well-being and fitness. Freshman/sophomore classes meet on days 1-3-5 and juniors/senior classes meet on 2-4-6. A wide range of units are offered including things such as aerobic conditioning, badminton, basketball, cardiovascular games, flag football, ultimate football, personal fitness and conditioning, volleyball, soccer, softball, and cross training. Mini lessons are also taught to expose them to many forms of exercise. Some of these include tumbling, juggling, line dancing, Plyometric training and agility training. Each year there is a unit involving teamwork, sportsmanship, and positive

communication. An example of this is a Survivor unit in which teammates work together to master challenges. This gives the students the opportunity to build character skills in a social setting. Each Wednesday is designated as Workout Wednesday. On these days some sort of total body fitness or cross training is taught. They have a workout for the day, but also have a workout that they can add to their list for the future.

SCED Code 08001 Physical Education

Physical Education courses provide students with knowledge, experience, and an opportunity to develop skills in more than one of the following sports or activities: team sports, individual/dual sports, recreational sports, and fitness/conditioning activities.

COURSE:

Strength Training Physical Education

COURSE LENGTH:

One Year

COURSE TYPE:

Required

PREREQUISITES:

None

GRADE AVAILABILITY:

9-12

Course Description:

Strength training PE is an option offered all for GHV students. They may take it for one or both semesters. The goal of the strength training class is to acclimate students to using a wide variety of lifting techniques and methods for strength and conditioning. They will learn proper technique, learn to avoid injuries and be able to enhance their human performance for general life wellness and/or for athletics. Students will track and monitor their progress in regards to strength, fitness standards and their own personal goals.

SCED Code 08009 Weight Training

Weight Training courses help students develop knowledge and skills with free weights and universal stations while emphasizing safety and proper body positioning; they may include other components such as anatomy and conditioning.

SPECIAL PROGRAMS

GRADE

9	10	11	12	Course Name	Course Length	Semester Offered	Credits	Prerequisite
X	X	X	X	TAG	1 Semester	Fall –Spring	1-every day .5 every other day	See Below for Complete Qualifications
X	X	X	X	Mock Trial	1 Semester	Spring	1	None
			X	Student Work/Intern Programs	1 Year	Fall-Spring	None	Principal Approval
			X	NIACC Career Link Programs	1 Year	Fall-Spring	Varies	Varies
	X	X	X	Work Experience	1 Semester	Fall or Spring	Varies	Principal Approval
			X	Cadet Teaching	1 st or 2 nd Semester Upon Approval*	Fall or Spring	1	Psychology and Child Development
					*Attendance is considered for eligibility for Cadet Teaching			
		X	X	Advanced Academics	Semester	Fall or Spring	1 Each Semester	See Below for Complete Qualifications

SPECIAL PROGRAMS

COURSE:

COURSE LENGTH:

COURSE TYPE:

PREREQUISITES:

T.A.G. (Talented & Gifted)

One Semester (Fall-Spring)

Elective

Must meet TAG qualifications and complete a Student Nomination Form

prior to registration. Selection of students will be determined by multiple criteria including: Two teacher nominations, minimum GPA of 3.7, ISASP scores. Students seeking a nomination in a non-academic area such as music, art, etc. will be required to submit: 1) Talented and Gifted Teacher Nomination for Superior Artistic/Musical Ability. This would be completed by the art/music teacher; and 2) A product displaying the artistic/music talent. Students must complete a nomination form each year they wish to participate in the program. 9-12

GRADE AVAILABILITY:

COURSE DESCRIPTION:

Identified students will produce self-directed learning projects focusing on a subject area, career, or new skill of interest to them. They will apply critical and creative thinking, research, and communication, as evidenced by the development of innovative products that reflect individuality and creativity. Students will be required to keep daily progress notes and give a final presentation during the course of each quarter.

Student Nomination Form: The Iowa Code states that gifted students must meet multiple criteria in order to be admitted into a gifted program. The Code also states that in the event that the number of eligible students exceeds the available openings, participants shall be selected according to the extent to which they can benefit from the program. With that being said, students wanting to enroll in a high school TAG class must submit the following: 1) Current GPA; 2) Most recent Iowa Assessment scores; 3) Teacher nomination form; and 4) Self-nomination form.

SCED 22106 Seminar

Seminar courses vary widely, but typically offer a small peer group the opportunity to investigate areas of interest. Course objectives may include improvement of research and investigatory skills, presentation skills, interpersonal skills, group process skills, and problem-solving and critical-thinking skills. Seminars aimed at juniors and seniors often include a college and career exploration and planning component.

COURSE: **Mock Trial**
COURSE LENGTH: One Semester (Spring)
COURSE TYPE: Elective
PREREQUISITES: None
GRADE AVAILABILITY: 9, 10, 11, 12

COURSE DESCRIPTION:

Students will learn how our adversarial system of justice operates by preparing for and conducting a mock trial at a regional competition. While preparing for competition, students will develop many skills that will be useful throughout their lives. These skills include persuasive public speaking, critical and analytical thinking, strategic and tactical planning, self-discipline, team collaboration, the use of computer organization and presentation software, active listening, critical reading, and brainstorming. Each team is composed of at least eight and no more than ten members. There are eight roles on each side of the case (four attorneys, three witnesses and one timekeeper) and each team must perform both sides of the case. Students must have instructor approval, which will focus on their English grades and input from English instructors.

SCED Code 04165 Legal System

Legal System courses examine the workings of the U.S. criminal and civil justice systems, including providing an understanding of civil and criminal law and the legal process, the structure and procedures of courts, and the role of various legal or judicial agencies. Although these courses emphasize the legal process, they may also cover the history and foundation of U.S. law (the Constitution, statutes, and precedents). Course content may also include contemporary problems in the criminal justice system.

COURSE: **Work Experience**
COURSE LENGTH: One Semester (Either)
COURSE TYPE: Elective
PREREQUISITES: Principal/Instructor Approval
GRADE AVAILABILITY: 9-12

COURSE DESCRIPTION:

This program is available to identified students who have met eligibility criteria. The intent of this program is to provide learning opportunities and training for job-seeking and job-keeping skills. The student goes to a workplace on a regularly-scheduled basis and the program is supervised by a work experience coordinator either through the school district or AEA 267.

SCED Code 22153 Diversified Occupations

Diversified Occupations courses help students enter the workforce through career exploration, job search and application, and the development of positive work attitudes and work-related skills. These courses typically cover such topics as career planning and selection, money management, communication skills, interpersonal business relationships and behaviors, and personal responsibility. Employment may be a required component of these courses, or students may be required to enroll concurrently in a work experience course.

COURSE: **Student Work Release/Internship Program**
COURSE LENGTH: One Year
COURSE TYPE: Elective

PREREQUISITES: Principal/Instructor Approval

GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

The Work-Release Program is designed to combine part-time school work and part-time job experience enabling students to become more occupationally adequate in preparation for post-high school careers. Work Release is primarily intended for those students who will be terminating their education upon completion of high school, but does not exclude the student interested in additional vocational or technical programs. The general objectives will be as follows: To develop the basic academic skills necessary in functional daily living. To acquire practical background expected of adult citizens; To achieve self-acceptance and a sense of dependability within the community; To develop qualities of personality, character, and work habits necessary for employment; and To explore the world of work and develop economic usefulness. In order to participate, the student must have approval, in writing from the student's parents, approval of the employer stating the type of work involved, and approval of faculty and administration of the Garner-Hayfield-Ventura Community School District. Additional guidelines shall be established by the superintendent in cooperation with the board of education.

COURSE: **GHV HS/NIACC Cooperative Career Link Academy**

Programs

COURSE LENGTH: One Year

COURSE TYPE: Elective

PREREQUISITES: Drawing Boards contain many recommendations

GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

GHV HS has made a commitment to provide some unique opportunities for our senior students to earn specialized training and college credit by enrolling in Academy programs sponsored by GHV HS and NIACC. At this time, there are seven programs available: Entrepreneurial Academy (GHV), Health Careers Academy (Forest City), Information Technology (Forest City), Advanced Manufacturing (Forest City), Building Trades (Forest City), Tool & Die Technology (NIACC-Mason City), and Automotive Service Technology (NIACC-Mason City). Participating students attend the appropriate center in the morning and their "home" school in the afternoon. Students planning to pursue any of these programs are encouraged to collect information as sophomores and tailor their high school courses, so they meet necessary requirements for respective programs. Individuals needing additional information are encouraged to contact either the high school principal or high school counselor.

Additional information about the NIACC Career Link Academies is on the following pages.

COURSE: **Cadet Teaching (Semesters 1 or 2)**

COURSE LENGTH: 1st or 2nd Semester Upon Approval

COURSE TYPE: Elective

PREREQUISITES: Psychology & Child Development and Teacher Approval

GRADE AVAILABILITY: 12

COURSE DESCRIPTION:

This course allows a student to get an introduction to the teaching profession and many of the dynamics involved in becoming a teacher. This program is designed to provide "on-site" learning opportunities for those students who have a desire to go into the education profession or related field. Hands-on experience working with teachers and students will be a major component of this course. Participation in this program requires approval and cooperation with a supervising teacher.

SCED Code 19198 Education—Workplace Experience

Education—Workplace Experience courses provide students with work experience in fields related to education. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

COURSE: **Advanced Academics**
COURSE LENGTH: 1 Semester (Fall and Spring)
COURSE TYPE: Elective
PREREQUISITES: Must be a Junior or Senior.
 Minimum cumulative GPA of 3.3 or above.
 Must be proficient or advanced in the previous year's ISASP English/Language Arts data.
 Must be in good academic standing in all classes.
 Must have good attendance with minimal absences.
 Principal and Counselor approval required.

GRADE AVAILABILITY: 11, 12

COURSE DESCRIPTION:

Students will be exposed to the demands and rigorous expectations of online college level courses. The course is free to the student so long as the student passes the class and does not withdraw. Students need to realize that college credit will be a part of their permanent college transcript and can affect their college cumulative GPA.

Students may choose from the following on-line NIACC courses (please refer to the NIACC website for a complete course description):

PSY 111 Intro to Psychology – SCED Code 04254C-Psychology

Psychology courses introduce students to the study of individual human behavior. Course content typically includes (but is not limited to) an overview of the field of psychology, topics in human growth and development, personality and behavior, and abnormal psychology.

PSY 121 Developmental Psychology – SCED Code 04255C-Particular Topics in Psychology

These courses examine a particular topic in psychology, such as human growth and development or personality, rather than provide a more comprehensive overview of the field.

SOC 110 Intro to Sociology – SCED Code 04258C-Sociology

Sociology courses introduce students to the study of human behavior in society. These courses provide an overview of sociology, generally including (but not limited to) topics such as social institutions and norms, socialization and social change, and the relationships among individuals and groups in society.

BIO 152 Health and Nutrition – SCED Code 03063C-Particular Topics in Biology

Particular Topics in Biology courses concentrate on a particular subtopic within the field of biology (such as botany, zoology, genetics, and so on) that is not otherwise described within this classification system.

ANT 105 Cultural Anthropology – SCED Code 04252C-Particular Topics in Anthropology

These courses examine a particular topic in anthropology, such as physical anthropology, cultural anthropology, or archeology, rather than provide a more comprehensive overview of the field.

PHI 105 Intro to Ethics – SCED Code 0407C-Particular Topics in Philosophy

These courses examine a particular topic in philosophy, such as aesthetic judgment, ethics, cosmology, or the philosophy of knowledge, rather than providing a more general overview of the subject.

MUS 100 Music Appreciation – SCED Code 05116C-Music History/Appreciation

Music History/Appreciation courses survey different musical styles and periods with the intent of increasing students' enjoyment of musical styles and/or developing their artistic or technical judgment. Music History/Appreciation courses may also focus on developing an understanding of a particular style or period.

SOC 120 Marriage and Family – SCED Code 04259C-Particular Topics in Sociology

These courses examine a particular topic in sociology, such as culture and society or the individual in society, rather than provide an overview of the field of sociology.

HIS 151 U.S. History to 1877 (Seniors only) – SCED Code 04102C-Early U.S. History

Early U.S. History courses examine the history of the United States from the colonial period to the Civil War or Reconstruction era (some courses end after this period). Some courses include American history before European settlement, while others may begin at the formation of the new nation. These courses typically include a historical overview of political, military, scientific, and social developments.

HIS 152 U.S. History Since 1877 (Seniors only) – SCED Code 04103C-Modern U.S. History

Modern U.S. History courses examine the history of the United States from the Civil War or Reconstruction era (some courses begin at a later period), through the present time. These courses typically include a historical review of political, military, scientific, and social developments.

SPC 112 Fundamentals of Public Speaking – SCED Code 01151C-Public Speaking

Students will study the theory and practice of public speaking as an intellectual tool for use in argumentation and persuasion in a democratic society. This course prepares the student for a variety of speaking situations, both formal and informal, with an emphasis on speech preparation, organization, support, delivery, and audience analysis.

Career Link: A Jump Start on College and the Future

Career Link is a program which allows qualified students to earn a year of college career program credit while still in high school. This is made possible through a close cooperative relationship between Garner-Hayfield-Ventura High School and North Iowa Area Community College.

All tuition and textbook costs are paid through a combination of high school, NIACC, and state incentive funds. There is no cost to the student, except for transportation, and in some programs, tools. In some cases, the student can complete the first year of an associate degree career program by the end of his/her senior year.

Detailed course descriptions are available in the high school guidance office. The general catalog and student handbook from NIACC is also available on-line at www.niacc.edu.

Career Link Programs

**Entrepreneurial Academy -- Garner-Hayfield-Ventura High School
(2 periods)**

**Health Career – Hanson Career Center (Forest City)
(5 periods)**

**I.T. (Information Technology) – Hanson Career Center (Forest City)
(5 periods)**

**Building Trades – Hanson Career Center (Forest City)
(5 Periods)**

**Advanced Manufacturing – Hanson Career Center (Forest City)
(5 Periods)**

**Automotive Service Technology – North Iowa Area Community College Campus
(6 Periods)**

**Tool & Die Technology – North Iowa Area Community College Campus
(6 Periods)**

Program Benefits:

The Career Link program has numerous advantages for students, not the least of which is the fact that they are prepared to enter the work force with skills that make them highly employable.

Students also:

- Save one year's time and one year's tuition/book costs.
- Receive dual credit for completed course work.
- Experience college success while still in high school.
- Ease transition to college.
- Enhance self-esteem and self-confidence.
- Develop career focus and strengthen skills.
- Achieve academic and personal goals.
- Get a head start on college and a career.

Making It Work:

Normally, Career Link is started during the sophomore or junior year when students take required high school preparatory courses. Students also complete “articulated” classes, which are taught by their high school teachers. In other words, certain high school classes cover similar material as introductory college ones. If at least a “B” average is maintained in the high school course, it takes the place of the college one, thereby saving time and money.

During the senior year, students spend mornings taking college classes, and in the afternoons they attend classes at GHV HS to fulfill graduation requirements:

A NIACC School Partnership Coordinator works with Angie Bierle, GHV HS counselor, to maintain a close watch on student progress. NIACC instructors provide them with regular written progress reports on each student.

NIACC Academy - John V. Hanson Career Center

Beginning in Fall of 2021, students from Forest City High School, GHV High School, Lake Mills High School, and North Iowa High School will have the opportunity to enroll in the John V. Hanson Career Center. The Career Center is located in Forest City and allows students to choose between four academies that can lead to good paying jobs in high demand fields. The four academies are Advanced Manufacturing, Construction Trades, Information Technology, and health careers. Students will earn college credit by enrolling in NIACC classes at the career Center. This comes at no cost to the student or their parents. Textbooks, tools, and equipment are also provided to the students. Don't miss out on this exciting opportunity!

Program Description:

Advanced Manufacturing - The advanced Manufacturing Academy exposes students to a wide variety of skills necessary to be successful in today's manufacturing workforce. Students will gain drafting and print reading skills as well as be given the opportunity to put design into practice with hands-on projects. Students completing the Advanced Manufacturing Academy will be ready to enter one of the NIACC manufacturing programs: Welding, Tool & Die, Industrial Mechanics and Maintenance, and Industrial Systems Technology. Students will also be better prepared for the NIACC HVAC, Automotive Technology, and Diesel Technology programs. Some students that attend the advanced Manufacturing Academy may choose to enter a manufacturing career right out of High school. Students will be able to explore manufacturing careers and receive college credit by taking NIACC Work Based Learning classes.

Advanced Manufacturing Classes –

- Skills and Safety in Industry
- Maintenance Shop Operations
- Machine Trade Print Reading I
- Exploring Careers

- Shielded Metal Arc Weld I
- Thermal Cutting Processes I
- Manual And Mechanized
- Oxyfuel Cutting: Sense I
- Gas Metal Arc Welding
- Short Circuit
- Computer Aided Drafting (CAD)
- Machine Trade Print Reading I
- Employability Skills

Construction Trades - The Construction Trades Academy prepares students for work in residential and commercial construction. Students will be exposed to extensive hands on learning by building actual construction projects. Students will also have lecture time where they will learn about safety, blueprint reading, and computer aided design. Students completing the Construction Trades, academy may chose to continue their education in the NIACC Building Trades program or directly enter the workforce.

Construction Trades Classes –

- Construction Safety
- Carpentry Fundamentals I
- Cabinetry and Millwork
- Blueprint Reading and Estimating
- Carpentry Fundamentals II
- Architectural CAD

Information Technology - The Information Technology Academy will introduce students to computer programming, networking components, and computer operating systems. Upon successful completion of the information Technology Academy, students are eligible for a Foundations of Technology Certificate. They may choose to continue their education in one of the NIACC information Technology Programs: Business Technology Specialization, Information Assurances and Security, or Information Technology Specialist.

Information Technology Classes –

- Introduction to Programming
- Network Essentials
- IT Essentials
- Windows Workstation O.S.
- Operating Systems
- Cisco Networking

Health Careers – The Health Careers Academy is for any student interested in pursuing a career in the health field. It combines practical hands-on classes with general education courses which makes it a good fit for any student. Some students that attend the Health careers Academy may enter the workforce after high school while others may pursue advanced degrees. The Health Careers Academy prepares students to enter the Associate Degree in Nursing program at NIACC. For students that are not sure which career in healthcare they want to study, an exploring careers class will be offered that will allow students to earn college credit while observing health occupations firsthand.

Health Careers Classes–

- Nurse Aide Theory
- Nurse Aide Clinical
- Composition I
- Exploring Careers
- Medical Terminology I
- Emergency Medical Responder
- Intro to Psychology
- Composition

Grading Requirements:

For NIACC's Licensed Practical Nurse program, students must attain a "C" grade in all nursing courses and at least a "C-" in related required courses. An overall 2.00 GPA in the prescribed curriculum and a minimum overall cumulative college grade point average of 2.00 is required for graduation from this program.

If a student wishes to seek application to NIACC's Associate Degree Nursing (RN) program, a cumulative GPA of 2.5 in the nursing courses must be attained, as well as a "C" grade in all support courses required for the Associate Degree Nursing program. Please refer to the NIACC catalog for specific entrance requirements.

Both male and female students are encouraged to participate in this Academy program.

Students interested in this program should contact their high school counselor or NIACC School Partnership Coordinator (1-888-466-4222, ext. 4164)



Garner-Hayfield-Ventura / NIACC Health Careers Academy



Subject	High School				Health Careers Academy at Britt		Postsecondary <u>NIACC Degree Programs</u>
	Freshman Year	Sophomore Year	Junior Year		Senior Year		
			Fall	Spring	Fall		
Math	Alg. 1-A or Alg. 1	Alg. 1-B or Geometry	Geometry or Algebra 2				
Language Arts	English 9	English 10	English 11		ENG-105 (3 s.h.) Composition I @ Health Careers Academy	ENG-106 (3 s.h.) Composition II @ Health Careers Academy	Medical Assistant- MA Practical Nursing- PN Physical Fitness & Wellness <u>NIACC Degree Programs</u>
Science	Integrated Science	Biology	Chemistry (if planning to complete a degree)			Anatomy (complete in the junior year when possible)	Associate Degree Nursing Medical Lab Technician- MLT Physical Therapist Assistant- PTA Wellness, Exercise Science & Leisure Services- AAS Radiologic Technology- AAS Paramedic- AAS Associate of Arts Degree- AA <u>NIACC Transfer Programs</u>
Humanities & Social Sciences		Elective or World History	American History			Economics and American Government	
Humanities & Social Sciences					PSY-114 (3 s.h.) Introduction to Psychology @ Health Careers Academy	PSY-121 (3 s.h.) Developmental Psychology @ Health Careers Academy	
Other	Physical Education	Physical Education	Physical Education			Physical Education	
Other			Advanced Health		PEH-140 (1 s.h.) First Aid @ Health Careers Academy	HSC-120 (3 s.h.) Medical Terminology I @ Health Careers Academy	Chiropractic Dentistry Medical Technology Mortuary Science Nursing- BSN Occupational Therapy Optometry Physical Therapy Physician Physician Assistant Radiology Wellness
Career Courses					HSC-130 (2.5 s.h.) Nurse Aide Theory & Lab @ Health Careers Academy	EMS-114 (2 s.h.) Emergency Medical Responder @ Health Careers Academy	
Career Courses					HSC-174 (1 s.h.) Nurse Aide Clinical @ Health Careers Academy		

High School Graduation

Course Delivered by NIACC to High School Students

Upon completion of the first semester Nurse Aide Theory, Lab, and Clinical classes, a student may take the state written test and skills demonstration test. With a score of 70% or better, a student will be registered with the State of Iowa as a Certified Nurse Aide (CNA).

Upon completion of The Emergency Responder course, students may earn Health Care Provider CPR certification and national Emergency Responder certification.

Entrepreneurship & Small Business Management Academy

Location: Garner-Hayfield-Ventura High School
School Partners: Garner-Hayfield-Ventura, West Hancock and Forest City
Capacity: 20 students
Year Established: 1999

Program Description:

Within the Entrepreneurship and Small Business Management program, students will take a combination of classes in:

First Semester:

ENG-105 Composition I (3 s.h.) Improvement of skills in reading, writing, and listening with an emphasis on expository methods of development and personal experience as supporting material. Students may be requested to use word processors and the Writer's Workbench analyses programs, the Writer's Workbench STEPS programs, and the structuring sentences video series. Students must meet minimum competency requirements in writing to receive a grade of C or higher

BUS-130 Introduction to Entrepreneurship (3 s.h.) This course introduces the concept of Entrepreneurship beginning with identifying characteristics of the Entrepreneur, evaluating opportunities, feasibility, financing, and planning for success. Students will also understand the need for a contingency plan as well as an exit strategy

BUS-122 Emerging Business Practices & Technologies(3 s.h.) This is an introductory course designed to assist students in creating a simple, inexpensive technologies including a webpage for a new business or concept while applying basic marketing, advertising, and sales techniques that are targeted to Internet or electronic information and sales.

Second Semester:

ENG-106 Composition II (3 s.h.) Prerequisite: ENG-105, Composition I, or ENG-102, Composition & Speech I. Students must have earned a C or higher grade in Composition I or Composition & Speech I before enrolling in Composition II. A continuation of ENG-105 Composition I, with an emphasis on argumentative and persuasive writing, on research methods, and on language. Students may be requested to use word processors, Writer's Workbench analyses, Writer's Workbench STEPS, and sentence structuring videos.

BUS-225 Business Internships (1 s.h.) Business Internships is a learning experience which is: 1) based on practical work experience; 2) related directly to the student's program of study; 3) individualized to enable the student to gain valuable work experience and help determine career choices; and 4) geared to the student's academic knowledge, personal development and professional preparation. A minimum of 60 hours in the workplace is required: NOTE: Students customize their internship to meet individual learning needs; internships may be completed in one's own local community.

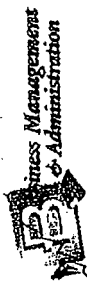
BUS-152 Creating A Company (3 s.h.) Developing and managing an entrepreneurial venture—bringing student business ideas to fruition and applying concepts from the Introduction to Entrepreneurship course. Students will experience the activities, emotions and tensions that are part of founding and/or joining a start-up company. Success will be determined by student initiative, perseverance, imagination, and energy. Students are required to identify real business customers and clients and take steps to deliver real services or products. This is a real-world experience, supplemented by classroom activities and sharing of lessons learned.

BUS-161 Human Relations (3 s.h.)

Human Relations is a course designed to improve the student's ability to function in the workplace. This class will work on increasing the student's self-awareness and improving their ability to get along with customers, coworkers, and supervisors *Equivalent to 15-241, BUSN-105.*

** Both male and female students are encouraged to participate in this program. **

Students interested in this program should contact their high school counselor or NIACC School



Garner-Hayfield-Ventura/ NIACC Entrepreneurship & Small Business Management Career Cluster: Business Management & Administration



Subject	High School						Postsecondary		
	Freshman Year		Sophomore Year		Junior Year		Senior Year		
	Fall Semester	Spring Semester	Fall Semester	Spring Semester	Fall Semester	Spring Semester	Fall Semester	Spring Semester	Fall Semester
*Language Arts	English 9	English 10	English 11	English 12	ENG-105 (3 s.h.) Composition I	ENG-106 (3 s.h.) Composition II			
*Math	Algebra 1	Geometry	Algebra 2	Statistics or Pre-Calculus					
*Science	Integrated Science	Biology	Chemistry and/or Anatomy						General Education Elective Math or Natural Science (3 s.h.)
*Social Sciences		Social Studies Elective	American History	Economics		Government			
Fine Arts/ Humanities	Elective	Elective	Elective	Elective		Elective	Business Elective (3 s.h.)		
Foreign Languages	Spanish I	Spanish II					BUS-182 (3 s.h.) Workplace Professionalism	ACC-111 (3 s.h.) Intro to Accounting	
PE & Health	PE/Health	PE	PE				BUS-102 (3 s.h.) Intro to Business	MGT-170 (3 s.h.) Human Resource Management	FIN-100 (3 s.h.) Introduction to Finance
Career Core	Intro to Business	Computer Science Principles	Accounting I		BUS-130 (3 s.h.) Intro to Entrepreneurship	BUS-152 (3 s.h.) Creating a Company	MGT-101 (3 s.h.) Principles of Management	MKT-110 (3 s.h.) Principles of Marketing	BUS-185 (3 s.h.) Business Law I
Career Core	Computer Applications I	Retail Marketing	Financial Literacy		BUS-122 (3 s.h.) Emerging Business Practices & Technologies	BUS-161 (3 s.h.) Human Relations	BCA-215 (3 s.h.) Business Computer Applications	BUS-268 (3 s.h.) Insurance and Risk Management	BCA-182 (3 s.h.) Comprehensive Spreadsheets

Career Information:
 The entrepreneurship curriculum will provide students with the proper tools to evaluate the feasibility of a new venture and to identify the available resources for assisting an entrepreneur during the start-up phase of the business.

*Note: Courses listed in this plan of study are only recommended coursework and should be individualized to meet each learner's educational and career goals. Students who know they wish to pursue a four-year degree and want to meet general educational requirements of transfer institutions should pursue the A.A. Degree. This will necessitate a slightly different curriculum.

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March 2020

Tool and Die Technology

Location: North Iowa Area Community College Campus – Mason City

Tool and Die Technology is a five-semester Degree program which is a continuation of the General Machinist Diploma program. The Tool and Die Technology program builds upon the previous studies with an in-depth study of high-precision industrial dies and die components, progressive dies, and plastics industry molds. A portion of the program is devoted to producing computer-aided drawings (CAD) of molds and dies, and then using computer-aided manufacturing (CAM) software to generate computer numerical control (CNC) machine language. Students operate CNC machine tools to produce many of their second year projects. While taking MFG-408 Basic Die Making, students will have an opportunity to earn the National Institute for Metalworking Skills credential for Materials, Measurement and Safety. Upon successful completion of the Tool and Die Technology curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree. Program graduates are prepared to work in the "tool room" of area manufacturers or to work for a specialty tool and die shop producing dies and molds for a large variety of production machines in our area. Entrance Advising Due to the highly technical nature of this program and NIACC's commitment to giving students the best possible opportunity for success, students are scheduled for advisement sessions with counselors and/or program personnel. In these sessions, the student's career plans, previous background, transcripts, test scores, life experiences, and motivation aid in designing a positive educational experience.

Required Courses/Suggested Schedule

First Year

First Term (Fall Semester)

BCA-119 Computer Orientation.....	1 s.h.
ENG-701 Communications I.....	3 s.h.
IND-190 Skills and Safety in Industry.....	1 s.h.
MFG-137 Machinist Math I*.....	2 s.h.
OR MAT-801 Applied Math A**(1 s.h.) and MAT-802 Applied Math B*** (1 s.h.) and MAT-803 Applied Math C**** (1 s.h.) and MAT-804 Applied Math D***** (1 s.h.)	
MFG-120 Machine Trade Print Reading I.....	1 s.h.
MFG-245 Machine Theory and Operations I+.....	9 s.h.
	17-19 s.h.

Second Term (Spring Semester)

MFG-130 Machine Trade Print Reading II++.....	1 s.h.
MFG-138 Machinist Math II+++.....	2 s.h.
MFG-248 Machine Theory and Operations II++++.....	7 s.h.
MFG-302 CNC Fundamentals++++.....	3 s.h.
PHY-720 Career Physics#.....	4 s.h.
	17 s.h.

Second Year

Third Term (Summer)

MFG-108 Computer-Aided Drafting (CAD)##.....	2 s.h.
MFG-110 3-D Modeling ###.....	2 s.h.
MFG-380 EDM Fundamentals###.....	2 s.h.
MFG-424 Jig and Fixtures####.....	5 s.h.
MFG-500 Statistical Process Control (SPC).....	1 s.h.
	12 s.h.

Fourth Term (Fall Semester)

BUS-162 Workplace Professionalism.....	3 s.h.
MFG-320 Computer Aided Manufacturing (CAM)†.....	3 s.h.
MFG-408 Basic Die Making††.....	8 s.h.
WEL-335 Ag and Industry Welding.....	2 s.h.
	16 s.h.

Fifth Term (Spring Semester)

ENG-702 Communications II†††.....	3 s.h.
MFG-312 Advanced CNC†††.....	2 s.h.
MFG-459 Injection Mold Making††††.....	9 s.h.
MFG-460 Plastics Materials.....	1 s.h.
	15 s.h.

Total Program Hours 77-79 s.h.



Garner-Hayfield-Ventura / NIACC Tool & Die Technology



Subject	High School				NIACC Campus		Postsecondary			
	Freshman Year	Sophomore Year		Junior Year		Senior Year		Summer Term	Fall Semester	Spring Semester
		English 9	English 10	English 11	English 11	Fall	Spring			
Math	Algebra 1	Geometry	Algebra 2	MFG-137 (2 s.h.) Machinist Math I	MFG-138 (2 s.h.) Machinist Math II					
English	English 9	English 10	English 11	English 11	English 12	English 12	English 12	ENG 701 (3 s.h.) Communications I	ENG-702 (3 s.h.) Communications II	
Science	Integrated Science	Biology								
Humanities & Social Sciences		2 electives	American History	Economics and Government						
Other	Health									
Other	Physical Education	Physical Education	Physical Education	Physical Education	Physical Education	Physical Education		MFG-110 (2 s.h.) 3-D Modeling		
Career Courses	Intro to Drafting	Beginning and Advanced Metals	CAD 1/2	CAD 3/4	MFG-120 (1 s.h.) Machine Trade Print Reading I @ NIACC	MFG-130 (1 s.h.) Machine Trade Print Reading II @ NIACC	MFG-106 (2 s.h.) Computer Aided Drafting (CAD)	BUS-162 (3 s.h.) Workplace Professionalism		
Career Courses	Beginning Woods	Advanced Woods	ELT-745 (3 s.h.) Maintenance Shop Operations @ S-HV	Power Mechanics	MFG-245 (9 s.h.) Machine Theory & Operations I @ NIACC	MFG-248 (7 s.h.) Machine Theory & Operations II @ NIACC	MFG-500 (1 s.h.) Statistical Process Control (SPC)	WEL-335 (2 s.h.) Ag & Industry Welding	MFG-460 (1 s.h.) Plastics Materials	
Career Courses			Equipment Refinishing		IND-190 (1 s.h.) Skills & Safety in Industry @ NIACC	MFG-302 (3 s.h.) CNC Fundamentals @ NIACC	MFG-424 (5 s.h.) Jig and Fixtures	MFG-408 (8 s.h.) Basic Die Making	MFG-459 (9 s.h.) Injection Mold Making	
Technical Core							MFG-380 (2 s.h.) EDM Fundamentals	MFG-320 (3 s.h.) Computer Aided Manufacturing (CAM)	MFG-312 (2 s.h.) Advanced CNC	

NIACC Tool & Die Associate in Applied Science Degree.

High School Graduation

Articulated Course Between Garner-Hayfield-Ventura High School and NIACC

Course Delivered by NIACC to Garner-Hayfield-Ventura High School Students

Student Enrolled at NIACC after High School

Articulation Information:

Automotive Service Technology

Location: North Iowa Area Community College Campus – Mason City

Automotive Service Technology is a 4 1/2 semester Associate in Applied Science (A.A.S.) Degree program. The program is ASE/NATEF Master Certified. All eight instructional areas meet industry and educational standards as identified by Automotive Service Excellence and evaluated by the National Automotive Technicians Education Foundation:

- Engine Repair • Automatic Transmission/Transaxle • Manual Drive Train and Axles • Suspension and Steering • Brakes • Electrical/Electronic Systems • Heating and Air Conditioning • Engine Performance

Upon successful completion of the first three terms of the Automotive Service Technology curriculum with a cumulative grade point average of 2.00 (C) or higher, the student is awarded a Diploma. Developmental courses are not used in calculating the cumulative grade point average for graduation. Students must achieve a minimum grade point average of 2.00 (C) in the core automotive courses in order to continue to the second year of the program.

Upon successful completion of the Automotive Service Technology curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.

Entrance Advising: Due to the highly technical nature of the Automotive programs and NIACC's commitment to giving students the best possible opportunity for success, students will be scheduled for advisement sessions with counselors and program personnel. In these sessions, the student's career plans, previous background, transcriptions, test scores, life experiences, and motivation will aid in designing a positive educational experience.

Required Courses/Suggested Schedule

First Year First Term (Fall Semester)

AUT-105 Introduction to Automotive Technology.....	4 s.h.
AUT-113 Transportation Fundamentals.....	3 s.h.
AUT-115 Automotive Shop Safety.....	1 s.h.
AUT-627 Automotive Electrical Systems*.....	7 s.h.
	15 s.h.

Second Term (Spring Semester)

AUT-405 Automotive Suspension and Steering**.....	5 s.h.
AUT-505 Automotive Brake Systems**.....	5 s.h.
ENG-701 Communications I.....	3 s.h.
MAT-801 Applied Math A***.....	1 s.h.
MAT-802 Applied Math B****.....	1 s.h.
MAT-803 Applied Math C*****.....	1 s.h.
	16 s.h.

Third Term (Summer)

AUT-305 Automotive Manual Drive Train & Axles**.....	4 s.h.
AUT-704 Automotive Heating & Air-Conditioning**.....	4 s.h.
	8 s.h.

Second Year

Fourth Term (Fall Semester)

AUT-164 Automotive Engine Repair**.....	4 s.h.
AUT-204 Automotive Automatic Transmissions and Transaxles**.....	4 s.h.
AUT-843 Automotive Computerized Controls+.....	5 s.h.
BUS-162 Workplace Professionalism.....	3 s.h.
BUS-130 Introduction to Entrepreneurship.....	3 s.h.
OR Other General Education elective course (3 .sh.)	19 s.h.

Fifth Term (Spring Semester)

AUT-832 Automotive Fuel Delivery Systems++.....	3 s.h.
AUT-859 Advanced Automotive Engine Performance++.....	6 s.h.
AUT-866 Automotive Engine Performance Testing++.....	6 s.h.
ENG-702 Communications II+++.....	3 s.h.
	18 s.h.

Total Program Hours 76 s.h.



Garner-Hayfield-Ventura / NIACC Automotive Service Technology



Subject	High School				NIACC Automotive Academy				Postsecondary		
	Freshman Year		Sophomore Year		Senior Year		Junior Year		Summer Term	Fall Semester	Spring Semester
	Freshman	Sophomore	Fall	Spring	Fall	Spring	Fall	Spring	Summer	Fall	Spring
Math	Ag. 1 or Alg. 1-A	Geometry or Alg. 1-B	Alg. 2 or Geometry							MAT-801-803 (3 s.h.) Applied Math A, B, C	
English	English 9	English 10	English 11	English 11	English 12	English 12				ENG 701 (3 s.h.) Communications I	ENG-702 (3 s.h.) Communications II
Science	Integrated Science	Biology	Chemistry								
Humanities & Social Sciences		Elective	American History		Economics and Government						
Other	Physical Education	Physical Education	Physical Education		Physical Education						
Other	Health										
Career Courses	Industrial Electric (must include Intro to Drafting)									BUS-162 (3 s.h.) Workplace Professionalism	
Career Courses	Intro to Drafting	Beginning Metals (1 semester)	Advanced Metals	Advanced Projects	AUT-115 (1 s.h.) Automotive Shop Safety @ NIACC	May Term AUT-113 Transportation Fundamentals				AUT-204 (4 s.h.) Automotive Automatic Transmissions and Transaxles	AUT-832 (3 s.h.) Automotive Fuel Delivery Systems
Career Courses			Maintenance Shop Operations @ S-HV	Power Mechanics	AUT-105 (4 s.h.) Intro to Automotive Technology @ NIACC	AUT-505 (6 s.h.) Automotive Brake Systems @ NIACC				AUT-164 (4 s.h.) Automotive Engine Repair @ NIACC	AUT-889 (6 s.h.) Advanced Engine Performance
Career Courses			Equipment Refinishing		AUT-627 (7 s.h.) Automotive Electrical Systems @ NIACC	AUT-405 (5 s.h.) Automotive Suspension & Steering @ NIACC				AUT-840 (3 s.h.) Automotive Computerized Controls	AUT-888 (6 s.h.) Automotive Engine Performance Testing

Course Delivered by NIACC
Student Enrolled at NIACC after High School

SCHEDULE- MINIMUM LOAD

The school day begins at 8:25 a.m. and ends at 3:25 p.m. The school day consists of nine (9) forty-one minute (41) periods of time with six days in our cycle instead of the customary five (5) days in a week. The six day schedule makes it much easier and more balanced when working with classes that meet less than on a daily basis.

- A. A minimum load schedule for a student who is **not** taking any music courses would be seven (7) academic class periods scheduled daily plus physical education.
- B. A minimum load schedule for a student who is taking **either** band or vocal music would be an additional six (6) academic class periods scheduled daily plus physical education.
- C. A minimum load schedule for a student who is taking **both** band and vocal music would be an additional five (5) academic class periods scheduled daily plus physical education.

ACADEMIC CREDITS:

- A. A graduating senior **must** have a minimum total of 46 credits.
- B. One credit is given for the successful completion of one semester of work in any academic course.
- C. Non-academic credit: This type of credit is given for successful completion of any of the following courses:

Band	1 credit	Physical Education	1/2 credit
Vocal Music	1 credit	Driver Education	1/2 credit

GRADUATION REQUIREMENTS:

Each student is required to earn 46 credits to qualify for a high school diploma at graduation. Included in the accumulation of the 46 credits--the following specific requirements will also be in effect:

English/Language Arts: 8 credits: 2-English 9, 2-English 10, 2-English 11, 2-English 12 OR 2-Composition I and II (NIAACC Concurrent Enrollment Course).

Mathematics: 6 credits

Each student is required to complete at least six semesters of satisfactory coursework in mathematics. Course selection for freshmen is usually based on a combination of factors, which include student's aspirations, abilities, previous course-work achievement, standardized test score results, as well as science instructor and counselor recommendations.

Below are shown some of the more popular progressions used by students to fulfill the mathematics requirements at GHV HS:

1. One year each of Algebra I-A & Algebra I-B, and Consumer Math.
2. One year of Algebra I-A & Algebra I-B and Consumer Math.
3. One year of Algebra I-A & Algebra I-B plus Geometry.
4. One year each of Algebra I & Geometry plus Algebra II.
5. One year of Geometry & Algebra II plus Statistics or Pre-Calculus

Science: 6 credits

Each student is required to complete at least six semesters of satisfactory coursework in science. Course selection for freshmen is usually based on a combination of factors, which includes student's aspirations, abilities, previous course-work achievement, standardized test score results, as well as science instructor and counselor recommendations.

The progression of science courses may vary according to the student's abilities and interests. Below is a listing of the most common sequence by students:

Grade 9= Integrated Science - Required

Grade 10= Biology - Required

Grade 11=Conceptual Chemistry or Intro to Chemistry (one of the two is Required)

Grade 12=Anatomy & Physiology **and/or** Advanced Chemistry **and/or** Physics

Social Studies: 6 credits

Each student is required to successfully complete two semesters (1-credit each) in American History (junior year) and one semester in Government and one semester in Economics (senior year) in order to earn a diploma. The other two credits may be earned in any elective high school Social Studies courses.

Health: 1 credit

Each student is required to successfully complete one semester of Health class in order to earn a diploma.

Financial Literacy: 1 credit

Each student is required to successfully complete one semester of Financial Literacy class in order to earn a diploma.

GENERAL RECOMMENDATIONS FOR COURSE SELECTION IN HIGH SCHOOL:

When you (the student) formulate your future plans you should have a general idea as to whether you plan additional education after graduation or you plan to enter a vocation, which will not require additional training.

Most GHV HS graduates pursue one of the four choices listed below:

1. **Seek Employment:** If this is your goal, your #1 goal in high school should be to work to make yourself more employable. This involves developing good work habits--even in areas that are not of major interest. This also means developing character references and other assets for your permanent record that will be helpful in applying for employment. Enrolling in "resume skills courses" is vital.
2. **Enter the Armed Forces:** You need to decide what skills or background your high school courses can provide to improve your chances of getting the assignment you most prefer. **Notice:** The current state of the economy has made it possible for the Armed Forces to be much more selective in whom they wish to enlist. The option of dropping out of school and joining the armed forces is seldom available! Our military organizations have expressed their preference to enlist high school graduates.
3. **Enroll in one or two-year Vocational Programs:** (Mechanical, technical, nursing, cosmetology, business, apprenticeship, etc.) You should include those courses and experiences in high school, which will make you better prepared to pursue the program you have selected. The economy has had a definite impact in this area too. Many students who previously would have left high school for items #1 or #2 above are now entering this area...Competition is tougher than ever in all fields. Do what you can to be prepared!
4. **Enroll in four-year College Program:** (Pursuing a Bachelor of Arts or Bachelor of Science degree-whether beginning at a 4-year school or in a 2-year school and transferring to a 4-year school to finish). You should determine and include both those courses that are required and those recommended for the area you intend to pursue as your major field.

* College requirements are usually higher than minimum high school graduation requirements (two semesters of writing courses, six semesters of sequential math, two semesters of Chemistry, etc.). Students planning to enter college should check the catalog of the college they are considering and make note of any specific requirements needed.

Course Changes:

Wholesale course changes are strongly discouraged at GHV HS. Students have a great deal of latitude of making revisions prior to the opening of each semester. Students will be given a total of four (4) school days into the semester to make any "drop" or "add" changes on their schedule. The intent is that students will spend some time making serious decisions in advance regarding course selection rather than just signing up for "any old thing" and then making wholesale changes after the semester begins. Going more than four days into a new course and having students changing schedules causes inconvenience for other students and the teachers. Helping "schedule changers" to catch-up means taking away instruction and planning time from the people who scheduled correctly in the first place. Our first responsibility is to the students who seriously plan their schedules. The counselor must approve all course changes.

Prerequisites: All prerequisites below require the student to earn passing grade before enrolling in the advanced level course(s).

- 1) - Foods is required in order to enroll in Advanced Foods.
 - Advanced Foods is required to enroll in Culinary Foods.
 - Introduction to Textiles & Interior Design is required in order to enroll in Textiles and Design.
- 2) - Foundations of Art 2 is required to enroll in Creative Drawing.
 - One semester of Creative Drawing is required to enroll in Painting.
 - Foundations of Art 1 and 2, and one semester each of Creative Drawing and Painting, are required to enroll in Art Portfolio.
- 3) - One semester of Introduction to Drafting & Design is required before enrolling in any other Advanced Industrial Arts class.
 - Advanced Woods is a prerequisite for Carpentry and Building Trades.
 - Students with a strong interest in Industrial Arts should check with Mrs. Bierle, Mr. Omans, or Mr. Englin to be sure of other prerequisites in the Industrial Arts department as course offerings expand. (Notice: Students and parents should be aware that we are experiencing a heavy demand in the Industrial Arts area. Course limits in the number of students are necessary because of machinery available, safety, etc. The policy in this department is that when classes must be limited, past performance in prerequisite courses is the first criteria utilized to determine being included on the course roster.)
- 4) One semester of Psychology **and** one semester of Child Development are required to enroll in Cadet Teaching during your senior year.
- 5) Two semesters (1 year) of Biology **and** two semesters (1 year) of Anatomy & Physiology are required to enroll in College Biology.
- 6) There are other obvious prerequisites involving certain other courses. Be sure to check the course descriptions in the next section of this curriculum guide. Feel free to contact Mrs. Bierle for clarification.

SUMMARY

Students and parents should be aware that we are in a particularly competitive time period because of economic factors. It is no longer true that a person who is willing to work can find a job any time...there are many willing workers who are currently unemployed. It is also well known that many of the most attractive occupations presently demand a technical-oriented education as opposed to a four-year degree education. It is important for both parents and our students to work together on realistic goals with their future planning. Students are reminded that any course which expands their knowledge or increases their skills is likely to prove to be of value to them further-down-the-road. No course should be considered to be "just something to take". Each course choice should be based on a solid decision.

Course Revisions and New Offerings

There are a few course revisions that are listed and other revisions that may be enacted before the fall. In instances where further course revisions are instituted, students and parents will be informed by school announcements, email, bulletins, and correspondence sent home.

Spanish Standards

1. Students engage in conversation, provide and obtain information, express feelings and emotions and exchange information.
 - A. Express likes and dislikes
 - B. Use appropriate language for greetings, leave takings and other common interactions.
 - C. Uses appropriate vocabulary.
 - D. Know various linguistic elements and compare to native language
2. Students understand and interpret written and spoken language on a variety of topics.
 - A. Understand oral or written conversations
 - B. Understand spoken or written announcements on familiar topics/personal interest
 - C. Identifies people/projects based on oral or written description
3. Students present information, concepts and ideas
 - A. Write short informal notes that describe
 - B. Present oral reports on familiar topics
 - C. Write reports with appropriate grammar
 - D. Present researched information using the second language.
4. Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.
 - A. Be aware of and recognize cultural traditions and celebrations
 - B. Present information orally or in writing on cultural topics appropriate at this level
5. The student develops abilities that would enhance career opportunities
 - A. Identify career opportunities that require a second language
 - B. Research careers where a second language and culture knowledge is needed
6. The student uses technology to communicate in Spanish:
 - A. Demonstrate the ability to do word processing using correct grammar and vocabulary
 - B. Demonstrate the ability to put together a presentation using research techniques and presentation software like PowerPoint.
 - C. Demonstrate ability to present material using the various technological media available.

Language Arts Standards

College and Career Readiness Anchor Standards for Reading

The grades 6–12 standards define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.*
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

College and Career Readiness Anchor Standards for Writing

The grades 6–12 standards define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

The grades 6–12 standards define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

College and Career Readiness Anchor Standards for Language

The grades 6–12 standards define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

The most current Iowa Core can be found at <http://iowacore.educateiowa.gov>. More detailed information on these standards can also be found at this site.

MATHEMATICS STANDARDS FOR HIGH SCHOOL

The high school standards specify the mathematics that all students should study in order to be college and career ready. Additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics is indicated by (+), as in this example:

(+) Represent complex numbers on the complex plane in rectangular and polar form including real and imaginary numbers.

All Standards without a (+) symbol should be in the common mathematics for curriculum for all college and career ready students. Standards with a (+) symbol may also appear in courses intended for all students.

The high school standards are listed in conceptual categories:

- Number and Quantity
- Algebra
- Functions
- Modeling
- Geometry
- Statistics and Probability

Conceptual categories portray a coherent view of high school mathematics; a student's work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus.

Modeling is best interpreted not as a collection of isolated topics but in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (*). The star symbol sometimes appears on the heading for a group of standards; in that case, it should be understood to apply to all standards in that group.

Science Standards

PE Number	Performance Expectation	Required Course Taught	Chapter(s)	Elective Course Taught
<u>HS-PS1-1</u>	Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.	Conceptual Chemistry, Intro to Chemistry	Chapters 3-6	Advanced Chemistry
<u>HS-PS1-2</u>	Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.	Conceptual Chemistry, Intro to Chemistry	Chapters 7 - 9	Advanced Chemistry
<u>HS-PS1-3</u>	Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.	Integrated Science		Physics
<u>HS-PS1-4</u>	Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.	Conceptual Chemistry, Intro to Chemistry	Chapter 12	Advanced Chemistry
<u>HS-PS1-5</u>	Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.	Conceptual Chemistry, Intro to Chemistry	Chapters 12 & 23	Advanced Chemistry
<u>HS-PS1-6</u>	Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.*	Conceptual Chemistry, Intro to Chemistry, Integrated Science	Chapter 16	Advanced Chemistry
<u>HS-PS1-7</u>	Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.	Conceptual Chemistry, Intro to Chemistry	Chapters 9 - 11	Advanced Chemistry
<u>HS-PS1-8</u>	Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.	Conceptual Chemistry, Intro to Chemistry, Integrated Science	Chapters 3 & 24	Advanced Chemistry
<u>HS-PS2-1</u>	Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.	Integrated Science	Chapter 3 IS	Physics
<u>HS-PS2-2</u>	Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.	Integrated Science	Chapter 2 IS	Physics
<u>HS-PS2-3</u>	Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.*	Integrated Science		Physics
<u>HS-PS2-4</u>	Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects.	Integrated Science		Physics
<u>HS-PS2-5</u>	Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.	Integrated Science		Physics

PE Number	Performance Expectation	Required Course Taught	Chapter(s)	Elective Course Taught
<u>HS-PS2-6</u>	Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.*	Integrated Science		Physics
<u>HS-PS3-1</u>	Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.	Integrated Science, Conceptual Chemistry, Intro to Chemistry		Physics
<u>HS-PS3-2</u>	Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).	Integrated Science		
<u>HS-PS3-3</u>	Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.*	Integrated Science		Physics
<u>HS-PS3-4</u>	Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).	Conceptual Chemistry, Intro to Chemistry	Chapters 12 & 23	Advanced Chemistry
<u>HS-PS3-5</u>	Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interaction.	Integrated Science		Physics
<u>HS-PS4-1</u>	Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.	Integrated Science, Conceptual Chemistry, Intro to Chemistry		Physics
<u>HS-PS4-2</u>	Evaluate questions about the advantages of using a digital transmission and storage of information.	Integrated Science		
<u>HS-PS4-3</u>	Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.	Conceptual Chemistry, Intro to Chemistry	Chapter 4	
<u>HS-PS4-4</u>	Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.	Conceptual Chemistry, Intro to Chemistry	Chapter 4	
<u>HS-PS4-5</u>	Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.*	Integrated Science		
<u>HS-LS1-1</u>	Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.	Biology	6,10	Anatomy and Physiology

PE Number	Performance Expectation	Required Course Taught	Chapter(s)	Elective Course Taught
<u>HS-LS1-2</u>	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.	Biology	3,	Anatomy and Physiology
<u>HS-LS1-3</u>	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.	Biology	1,4,	Anatomy and Physiology
<u>HS-LS1-4</u>	Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.	Biology	6,	Anatomy and Physiology
<u>HS-LS1-5</u>	Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.	Biology	5,	
<u>HS-LS1-6</u>	Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.	Biology	2,	Anatomy and Physiology
<u>HS-LS1-7</u>	Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.	Biology	5,	Anatomy and Physiology
<u>HS-LS2-1</u>	Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.	Biology	17,18,19	
<u>HS-LS2-2</u>	Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.	Biology	17,18,19	
<u>HS-LS2-3</u>	Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.	Biology	2,17,	
<u>HS-LS2-4</u>	Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.	Biology	17,18	
<u>HS-LS2-5</u>	Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.	Biology	5,	
<u>HS-LS2-6</u>	Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.	Biology	17,18	
<u>HS-LS2-7</u>	Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.*	Biology	17,18,19	
<u>HS-LS2-8</u>	Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.	Biology	13,17,18,19	Anatomy and Physiology
<u>HS-LS3-1</u>	Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.	Biology	9,10	Anatomy and Physiology

PE Number	Performance Expectation	Required Course Taught	Chapter(s)	Elective Course Taught
<u>HS-LS3-2</u>	Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.	Biology	6,7,	Anatomy and Physiology
<u>HS-LS3-3</u>	Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.	Biology	8,	
<u>HS-LS4-1</u>	Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.	Biology	12,13	
<u>HS-LS4-2</u>	Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.	Biology	12,13	
<u>HS-LS4-3</u>	Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.	Biology	8,	
<u>HS-LS4-4</u>	Construct an explanation based on evidence for how natural selection leads to adaptation of populations.	Biology	12,13	
<u>HS-LS4-5</u>	Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.	Biology	12,13,19	
<u>HS-LS4-6</u>	Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity. ⁴	Biology	17,18,19	
<u>HS-ESS1-1</u>	Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy in the form of radiation.	Integrated Science		
<u>HS-ESS1-2</u>	Construct an explanation of the Big Bang theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.	Integrated Science		
<u>HS-ESS1-3</u>	Communicate scientific ideas about the way stars, over their life cycle, produce elements.	Integrated Science		
<u>HS-ESS1-4</u>	Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.	Integrated Science		
<u>HS-ESS1-5</u>	Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.	Integrated Science		

PE Number	Performance Expectation	Required Course Taught	Chapter(s)	Elective Course Taught
<u>HS-ESS1-6</u>	Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.	Integrated Science		
<u>HS-ESS2-1</u>	Develop a model to illustrate how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features.	Integrated Science		
<u>HS-ESS2-2</u>	Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.	Integrated Science		
<u>HS-ESS2-3</u>	Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.	Integrated Science		
<u>HS-ESS2-4</u>	Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.	Integrated Science		
<u>HS-ESS2-5</u>	Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.	Biology	2,17	
<u>HS-ESS2-6</u>	Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.	Biology	17,	
<u>HS-ESS2-7</u>	Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.	Biology	12,	
<u>HS-ESS3-1</u>	Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.	Integrated Science, Biology	18,19,	
<u>HS-ESS3-2</u>	Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.	Biology	18,19	Chemistry
<u>HS-ESS3-3</u>	Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.	Biology	18,19,	Chemistry
<u>HS-ESS3-4</u>	Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.	Biology	18,19,	Chemistry
<u>HS-ESS3-5</u>	Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.	Integrated Science		
<u>HS-ESS3-6</u>	Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.	Integrated Science		
<u>HS-ETS1-1</u>	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.	All Sciences		

PE Number	Performance Expectation	Required Course Taught	Chapter(s)	Elective Course Taught
<u>HS-ETS1-2</u>	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.	All Sciences		
<u>HS-ETS1-3</u>	Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.	All Sciences		
<u>HS-ETS1-4</u>	Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.	All Sciences		

K-12 Iowa Core in Social Studies

9-12 Social Studies Standards

Inquiry Anchor Standard	Inquiry Standard
Constructing Compelling Questions	SS.9-12.1. Create compelling questions representing key ideas within the disciplines.
Constructing Supporting Questions	SS.9-12.2. Develop supporting questions that contribute to an inquiry and demonstrate how, through engaging source work, new compelling and supporting questions emerge.
Gathering and Evaluating Sources	SS.9-12.3. Gather relevant information from multiple sources representing a wide range of views while using the origin, authority, structure, context, and corroborative value of the sources to guide the selection. SS.9-12.4. Evaluate the credibility of a source by examining how experts value the source.
Developing Claims and Using Evidence	SS.9-12.5. Identify evidence that draws information directly and substantively from multiple sources to detect inconsistencies in evidence in order to revise or strengthen claims. SS.9-12.6. Refine claims and counterclaims attending to precision, significance, and knowledge conveyed through the claim while pointing out the strengths and limitations of both.
Communicating and Critiquing Conclusions	SS.9-12.7. Construct arguments using precise and knowledgeable claims, with evidence from multiple sources, while acknowledging counterclaims and evidentiary weaknesses. SS.9-12.8. Construct explanations using reasoning, correct sequence, examples, and details with significant and pertinent information and data, while acknowledging the strengths and weaknesses of the explanations given its purpose. SS.9-12.9. Present adaptations of arguments and explanations that feature evocative ideas and perspectives on issues and topics to reach a range of audiences and venues outside the classroom using print and oral technologies and digital technologies.
Taking Informed Action	SS.9-12.10. Critique the use of claims and evidence in arguments for credibility. SS.9-12.11. Use disciplinary and interdisciplinary lenses to understand the characteristics and causes of local, regional, and global problems; instances of such problems in multiple contexts; and challenges and opportunities faced by those trying to address these problems over time and place. SS.9-12.12. Apply a range of deliberative and democratic strategies and procedures to make decisions and take action in their classrooms, schools, and out-of-school contexts.

K-12 Iowa Core in Social Studies

9-12 Behavioral Sciences

The behavioral sciences standards are laid out into two strands- psychology and sociology, giving districts flexibility to choose to focus on one or both strands. The goal is to encourage students to see, think, and act, in ways that reflect the paradigm of behavioral scientists. In addition, these standards provide a rigorous framework to prepare students for work in the behavioral sciences.

Content Anchor Standard	9-12 Psychology Strand	9-12 Sociology Strand
Recognize the interaction and influence between individuals and various groups	SS-Psy.9-12.13. Explain how social, cultural, gender, and economic factors influence behavior and human interactions in societies around the world.	SS-Soc.9-12.13. Explain the formation of groups and the creation and development of societal norms and values.
	SS-Psy.9-12.14. Examine how an individual's involvement in a collective group can influence their individual thoughts and behaviors.	SS-Soc.9-12.14. Identify characteristics of groups, and the influences that groups and individuals have on each other.
	SS-Psy.9-12.15. Analyze the influence different individual members of a group can have on the collective thought and behavior of the group as a whole.	SS-Soc.9-12.15. Distinguish patterns and causes of stratification that lead to social inequalities, and their impact on both individuals and groups.
Examine Factors that Led to Community and Change in Human and Group Behavioral	SS-Psy.9-12.16. Investigate human behavior from biological, cognitive, behavioral, and sociocultural perspectives.	SS-Soc.9-12.16. Examine and evaluate reactions to social inequalities, including conflict, and propose alternative responses.
	SS-Psy.9-12.17. Demonstrate a basic understanding of the scientific methods that are at the core of psychology.	SS-Soc.9-12.17. Analyze the development of sociological perspectives over the course of time, and how those perspectives are used today.
	SS-Psy.9-12.18. Evaluate and utilize theories and methodologies, necessary to plan, conduct, and especially interpret research results.	SS-Soc.9-12.18. Utilize various scientific methods to interpret behavior and events through the lens of a sociologist.
		SS-Soc.9-12.19. Determine ethical issues and necessary guidelines for conducting and analyzing behavioral science research.

K-12 Iowa Core in Social Studies

Content Anchor Standard		9-12 Psychology Strand	9-12 Sociology Strand
Apply Appropriate Research Procedures and Skills of a Behavioral Scientist		<p>SS-Psy.9-12.19. Adhere to and consider the impact of American Psychological Association and federal guidelines for the ethical treatment of human and nonhuman research participants.</p>	<p>SS-Soc.9-12.20. Apply appropriate research methods to collect and analyze data designed to answer a sociological question.</p>
		<p>SS-Psy.9-12.20. Collect and analyze data designed to answer a psychological question using basic descriptive and inferential statistics.</p>	<p>SS-Psy.9-12.21./SS-Soc.9-12.21. Explain how the validity and reliability of observations and measurements relate to data analysis.</p>
Apply Appropriate Research Procedures and Skills of a Behavioral Scientist		<p>SS-Psy.9-12.22./SS-Soc.9-12.22. Apply the major theoretical approaches and perspectives in behavioral science to our daily lives and civic engagement.</p>	<p>SS-Psy.9-12.23./SS-Soc.9-12.23. Assess issues and problems within our society using behavioral science knowledge, and develop ethical solutions to address those issues.</p>

K-12 Iowa Core in Social Studies

9-12 Civics and Government

The civics and government standards promote knowledge of the historical foundations and principles of American democracy and emphasize productive civic engagement. Additionally, the standards focus on understanding the unique processes of local, state, and national institutions.

9-12 Civics and Government

Content Anchor Standard

SS-Gov.9-12.13. Evaluate the powers and responsibilities of local, state, tribal, national, and international civic and political institutions, how they interact and the role of government in maintaining order. (21st century skills)

SS-Gov.9-12.14. Analyze the role of citizens in the U.S. political system, with attention to the definition of who is a citizen, expansion of that definition over time, and changes in participation over time. (21st century skills)

SS-Gov.9-12.15. Analyze the origins of government with attention to the purpose(s) of government, various theories of democracy, rule of law, and alternative models from other nations and groups. (21st century skills)

SS-Gov.9-12.16. Evaluate how the U.S. Constitution establishes the Rule of Law, governmental powers and responsibilities, as well as limits to a government. (21st century skills)

SS-Gov.9-12.17. Evaluate and explain the relationships among the branches of government, including federalism, separation of powers, the supremacy clause, the necessary and proper clause, judicial review, executive privilege, pocket veto, executive orders, quorum, filibuster, and other related topics. (21st century skills)

SS-Gov.9-12.18. Critique the influence of intermediary institutions on government and policy such as, interest groups, political parties, the mass media, campaigns, caucuses, elections, PACs, and local, state, tribal, and international organizations. (21st century skills)

SS-Gov.9-12.19. Evaluate the effectiveness of political action in changing government and policy, such as voting, debate, contacting officials, campaign contributions, protest, civil disobedience, and any alternative methods to participation. (21st century skills)

SS-Gov.9-12.20. Explain the significance of civic values to a well-functioning democracy including concepts such as conviction vs. compromise, majority rule vs. minority rights, state interests vs. individual interests, rights vs. responsibilities, and other related topics. (21st century skills)

SS-Gov.9-12.21. Explain the mechanisms of political socialization in American democracy such as the effects of the family, school, community, and media in influencing one's political decisions. (21st century skills)

SS-Gov.9-12.22. Identify and evaluate the contributions of Iowans who have played a role in promoting civic and democratic principles. (21st century skills)

SS-Gov.9-12.23. Evaluate multiple procedures for making governmental decisions at the local, state, national, and international levels. (21st century skills)

SS-Gov.9-12.24. Analyze how people use and challenge public policies through formal and informal means

Analyze Civic and Political Institutions

Apply Civic Virtues and Democratic Principles

Interpret Processes, Rules and Laws

K-12 Iowa Core in Social Studies

9-12 Civics and Government

Content Anchor Standard

with attention to important judicial processes and landmark court cases. (21st century skills)

SS-Gov.9-12.25. Evaluate the intended and unintended consequences of the implementation of public policy, specifically looking at the bureaucracy, citizen feedback, public opinion polls, interest groups, media coverage, and other related topics. (21st century skills)

SS-Gov.9-12.26. Analyze the historical, contemporary, and emerging patterns of political action and activism including voter demographics, party trends over time, polling data, campaign strategies and trends, and alternative means of participating. (21st century skills)

SS-Gov.9-12.27. Compare and contrast the institutions and systems of Iowa government and politics that are unique to the state including but not limited to Iowa's unique role in presidential selection and in the special status of Meskwaki lands as non-reservation lands.

SS-Gov.9-12.28. Identify local and state issues in Iowa and evaluate formal or informal courses of action used to affect policy.

Iowa History (History)

K-12 Iowa Core in Social Studies

9-12 Economics

The economics standards promote the concepts and tools necessary for economic decision making in order to help understand the interaction between buyers and sellers in markets, workings of the national economy, and interactions within the global marketplace.

Content Anchor Standard

9-12 Economics

SS-Econ.9-12.13. Apply the concept of scarcity when making economic decisions.

SS-Econ.9-12.14. Use cost-benefit analysis to argue for or against an economic decision.

SS-Econ.9-12.15. Analyze what goes into determining, and who determines, what is produced and distributed in a market system.

SS-Econ.9-12.16. Describe how changes in the level of competition can affect price and output levels in specific markets.

SS-Econ.9-12.17. Explain how changes in supply and demand cause changes of goods and services, labor, credit, and foreign currencies.

SS-Econ.9-12.18. Evaluate the effectiveness of government policies altering market outcomes.

SS-Econ.9-12.19. Describe the roles of institutions such as clearly defined property rights and the rule of law in a market economy.

SS-Econ.9-12.20. Use economic indicators to evaluate economic conditions.

SS-Econ.9-12.21. Explain why advancements in technology and investments in capital goods and human capital increase economic growth and standards of living.

SS-Econ.9-12.22. Explain the role of specialization in trade.

SS-Econ.9-12.23. Explain how globalization has impacted various aspects of economic growth, labor markets, and rights of citizens, the environment, and resource and income distribution in different nations.

SS-Econ.9-12.24. Analyze how national and global economic issues and systems impact Iowa's economy.

Iowa History (History)

K-12 Iowa Core in Social Studies

9-12 Financial Literacy

The financial literacy standards promote the goal of financial capability. The standards focus on setting goals, saving and spending, credit and debt, investing, and measuring financial risk.

Content Anchor Standard

9-12 Financial Literacy

Develop Financial and Career Goals

SS-FL.9-12.13. Develop short- and long-term financial goals. (21st century skills)

SS-FL.9-12.14. Evaluate entrepreneurship, career choices and the effect on the standard of living. (21st century skills)

Create a Saving and Spending Plan

SS-FL.9-12.15. Evaluate the effect of taxes and other factors on income. (21st century skills)

SS-FL.9-12.16. Develop a saving and spending plan using a financial recordkeeping tool. (21st century skills)

SS-FL.9-12.17. Apply consumer skills to saving and spending decisions. (21st century skills)

Analyze Credit and Debt Levels

SS-FL.9-12.18. Analyze the cost and benefits of different types of credit and debt. (21st century skills)

SS-FL.9-12.19. Summarize a borrower's rights and responsibilities. (21st century skills)

SS-FL.9-12.20. Investigate strategies to avoid and manage debt effectively. (21st century skills)

Evaluate Savings and Long Term Investments

SS-FL.9-12.21. Evaluate short-term savings tools. (21st century skills)

SS-FL.9-12.22. Apply investment tools to meet financial goals. (21st century skills)

SS-FL.9-12.23. Justify reasons to use various forms of insurance. (21st century skills)

Measure Risk Management Tools

SS-FL.9-12.24. Establish strategies for protection of personal identity and other forms of fraud. (21st century skills)

K-12 Iowa Core in Social Studies

9-12 Geography

The geography standards emphasize the human and physical characteristics of geography. The standards promote the use of multiple geographic tools in order to frame issues and solve problems in both a local and global context.

Content Anchor Standard

Create Geographic Representations

SS-Geo.9-12.13. Employ maps to display and explain the spatial patterns of human and environmental characteristics.

SS-Geo.9-12.14. Integrate multiple geographic representations to explain relationships between the locations of places and regions and their political, cultural, and economic dynamics.

SS-Geo.9-12.15. Use geographic data to analyze variations in the spatial patterns of human and/or environmental characteristics at multiple scales.

SS-Geo.9-12.16. Analyze relationships and interactions within and between human and physical systems to explain reciprocal influences.

SS-Geo.9-12.17. Analyze how environmental and cultural characteristics of various places and regions influence political and economic decisions.

SS-Geo.9-12.18. Evaluate the impact of human settlement activities on the environmental and cultural characteristics of specific places and regions.

SS-Geo.9-12.19. Analyze the reciprocal relationship between historical events and the spatial diffusion of ideas, technologies, cultural practices and the distribution of human population.

SS-Geo.9-12.20. Assess the impact of economic activities and political decisions on urban, suburban, and rural regions.

SS-Geo.9-12.21. Analyze how changes in the environmental and cultural characteristics of a place or region influence spatial patterns of trade and land use.

SS-Geo.9-12.22. Evaluate how economic globalization and the expanding use of scarce resources contribute to conflict and cooperation within and among countries.

SS-Geo.9-12.23. Analyze the consequences of human-made and natural catastrophes on global trade, politics, and human migration.

SS-Geo.9-12.24. Identify and evaluate Iowans or groups of Iowans who have influenced Iowa's environmental or cultural geography.

Evaluate Human Environment Interaction

Analyze Human Population Movement and Patterns

Analyze Global Interconnections

Iowa History (History)

9-12 Geography

K-12 Iowa Core in Social Studies

9-12 United States History

The U.S. history standards promote both historical content and historical thinking skills to prepare students with a strong foundation in significant historical content and with the skills necessary to apply historical thinking to any historical context. These are the skills required not only for college and career success, but for effective democratic citizenship.

Content Anchor Standard	9-12 United States History
Examine Factors that Led to Continuity and Change in Human and Group Behavior (Behavioral Sciences) Recognize the Interaction Between Individuals and Various Groups (Behavioral Sciences)	SS-US.9-12.13. Analyze how diverse ideologies impacted political and social institutions during eras such as Reconstruction, the Progressive Era, and the Civil Rights movement.
	SS-US.9-12.14. Evaluate the impact of gender roles on economic, political, and social life in the U.S.
Apply Civic Virtues and Democratic Principles (Civics/Government)	SS-US.9-12.15. Assess the impact of individuals and reform movements on changes to civil rights and liberties. (21st century skills)
	SS-US.9-12.16. Examine labor and governmental efforts to reform and/or maintain a capitalistic economic system in the Great Depression.
Analyze Human Population Movement and Patterns (Geography) Analyze Global Interconnections (Geography)	SS-US.9-12.17. Explain the patterns of and responses to immigration on the development of American culture and law.
	SS-US.9-12.18. Analyze the effects of urbanization, segregation, and voluntary and forced migration within regions of the U.S. on social, political, and economic structures.
Analyze Change, Continuity, and Context (History) Critique Historical Sources and Evidence	SS-US.9-12.19. Examine how imperialism changed the role of the United States on the world stage prior to World War I.
	SS-US.9-12.20. Analyze the growth of and challenges to U.S. involvement in the world in the post-World War II era.
	SS-US.9-12.21. Analyze change, continuity and context across eras and places of study from civil war to modern America. SS-US.9-12.22. Evaluate the impact of inventions and technological innovations on the American society and culture. SS-US.9-12.23. Analyze the relationship between historical sources and the secondary interpretations made from them.

K-12 Iowa Core in Social Studies

Content Anchor Standard (History)

9-12 United States History

SS-US.9-12.24. Critique primary and secondary sources of information with attention to the source of the document, its context, accuracy, and usefulness such as the Reconstruction amendments, Emancipation Proclamation, Treaty of Fort Laramie, Chinese Exclusion Act, Roosevelt's Corollary to the Monroe Doctrine, Wilson's Fourteen Points, New Deal Program Acts, Roosevelt's Declaration of War, Executive Order 9066, Truman Doctrine, Eisenhower's Farewell Speech, Gulf of Tonkin Resolution, Test Ban Treaty of 1963, Brown vs. Board of Education decision, Letter from a Birmingham Jail, and the Voting Act of 1965.

SS-US.9-12.25. Analyze how regional, racial, ethnic and gender perspectives influenced American history and culture.

SS-US.9-12.26. Determine multiple and complex causes and effects of historical events in American history including, but not limited to, the Civil War, World War I and II, the Korean War and the Vietnam War.

SS-US.9-12.27. Evaluate Iowans or groups of Iowans who have influenced U.S. History.

Compare Perspectives (History) Justify Causation and Argumentation (History) Iowa History (History)

K-12 Iowa Core in Social Studies

9-12 World History

The world history standards promote an emphasis on both historical content and historical thinking skills to prepare students with a strong foundation in significant history content, and with the skills necessary to apply historical thinking to any historical context. These are the skills required not only for college and career success, but for effective global citizenship.

Content Anchor Standard	9-12 World History
<p>Recognize the Interaction Between Individuals and Various Groups (Behavioral Sciences)</p> <p>Analyze Civic and Political Institutions (Civics/Government)</p>	<p>SS-WH.9-12.13. Describe the impact of culture and institutions on societies.</p>
	<p>SS-WH.9-12.14. Compare various systems of government, such as monarchies, democracies/republics, empires, and dictatorships, and their methods of maintaining order and/or control. (21st century skills)</p>
<p>Analyze Global Interconnections (Geography)</p> <p>Analyze Human Population Movement and Patterns (Geography)</p> <p>Analyze Change, Continuity, and Context (History)</p>	<p>SS-WH.9-12.15. Compare and contrast various economic and labor systems within and across societies.</p>
	<p>SS-WH.9-12.16. Examine the ways in which trade, commerce, and industrialization affected societies.</p>
	<p>SS-WH.9-12.17. Evaluate the consequences of human made and natural catastrophes on global trade, politics, and human migration.</p>
	<p>SS-WH.9-12.18. Assess impact of conflict and diplomacy on international relations.</p>
	<p>SS-WH.9-12.19. Explain the influence of human migrations on patterns of settlement and culture.</p>
<p>Analyze Change, Continuity, and Context (History)</p>	<p>SS-WH.9-12.20. Evaluate methods used to change or expand systems of power and/or authority.</p>
	<p>SS-WH.9-12.21. Investigate cultural advancements within societies with attention to belief systems, ideologies, the arts, science and technology.</p>
	<p>SS-WH.9-12.22. Analyze the influence of social, political and economic developments on gender roles and social status.</p>

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9-12 World History

Content Anchor Standard

Critique Historical
Sources and Evidence
(History)

SS-WH.9-12.23. Critique primary and secondary sources of information with attention to the source of the document, its context, accuracy, and usefulness of sources throughout world history.

Compare Perspectives
(History)

SS-WH.9-12.24. Examine and explain how the perspectives of individuals and societies impact world history.

Justify Causation and
Argumentation (History)

SS-WH.9-12.25. Determine multiple and complex causes and effects of historical events within world history.

Iowa History (History)

SS-WH.9-12.26. Assess Iowans or groups of Iowans who have influenced world history.

K-12 Iowa Core in Social Studies Appendix – Literacy Standards for History/Social Studies, 6-12

Reading Standards for Literacy in History/Social Studies.6-12

The grades 6–12 Reading Standards for Literacy in History/Social Studies define what students should know and be able to do by the end of each grade span. Note: These standards are also listed in the Iowa Core English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects document.

Grade 6-8 students:	Grade 9-10 students:	Grade 11-12 students:
Key Ideas and Details		
Cite specific textual evidence to support analysis of primary and secondary sources. (RH.6-8.1)	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information. (RH.9-10.1)	Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole. (RH.11-12.1)
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. (RH.6-8.2)	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text. (RH.9-10.2)	Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas. (RH.11-12.2)
Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered). (RH.6-8.3)	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them. (RH.9-10.3)	Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain. (RH.11-12.3)
Craft and Structure		
Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies. (RH.6-8.4)	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social studies. (RH.9-10.4)	Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how

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Grade 6-8 students:	Grade 11-12 students:	
	Madison defines faction in Federalist No. 10). (RH.11-12.4)	
Describe how a text presents information (e.g., sequentially, comparatively, causally). (RH.6-8.5)	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis. (RH.9-10.5)	Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole. (RH.11-12.5)
Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts). (RH.6-8.6)	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts. (RH.9-10.6)	Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence. (RH.11-12.6)
Integration of Knowledge and Ideas		
Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts. (RH.6-8.7)	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text. (RH.9-10.7)	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem. (RH.11-12.7)
Distinguish among fact, opinion, and reasoned judgment in a text. (RH.6-8.8)	Assess the extent to which the reasoning and evidence in a text support the author's claims. (RH.9-10.8)	Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information. (RH.11-12.8)
Analyze the relationship between a primary and secondary source on the same topic. (RH.6-8.9)	Compare and contrast treatments of the same topic in several primary and secondary sources. (RH.9-10.9)	Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources. (RH.11-12.9)
Range of Reading and Level of Text Complexity		
By the end of grade 8, read and comprehend	By the end of grade 10, read and comprehend	By the end of grade 12, read and comprehend

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Grade 6-8 students:	Grade 9-10 students:	Grade 11-12 students:
<p>history/social studies texts in the grades 6-8 text complexity band independently and proficiently. (RH.6-8.10)</p>	<p>history/social studies texts in the grades 9-10 text complexity band independently and proficiently. (RH.9-10.10)</p>	<p>history/social studies texts in the grades 11-CCR text complexity band independently and proficiently. (RH.11-12.10)</p>

Writing Standards for History/Social Studies, 6-12

The grades 6-12 Writing Standards for Literacy in History/Social Studies define what students should know and be able to do by the end of each grade span. Note: These standards are also listed in the Iowa Core English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects document.

Grade 6-8 students:

Text Types and Purposes

Write arguments focused on discipline-specific content.

- a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
- b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.
- c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
- d. Establish and maintain a formal style.
- e. Provide a concluding statement or section that follows from and supports the argument presented. (WHST.6-8.1)

Grade 9-10 students:

Write arguments focused on discipline-specific content.

- a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.
- b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.
- c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons,

Grade 11-12 students:

Write arguments focused on discipline-specific content.

- a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.
- b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.
- c. Use words, phrases, and clauses as well as varied syntax to link the major

K-12 Iowa Core in Social Studies

Grade 6-8 students:	Grade 9-10 students:	Grade 11-12 students:
<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ol style="list-style-type: none"> a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. 	<p>between reasons and evidence, and between claim(s) and counterclaims.</p> <ol style="list-style-type: none"> d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented. (WHST.9-10.1) 	<p>sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <ol style="list-style-type: none"> d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented. (WHST.11-12.1)
<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ol style="list-style-type: none"> a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. 	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ol style="list-style-type: none"> a. Introduce a topic and organize ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify 	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ol style="list-style-type: none"> a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence

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Grade 6-8 students:	Grade 9-10 students:	Grade 11-12 students:
<p>d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone.</p> <p>e. Provide a concluding statement or section that follows from and supports the information or explanation presented. (WHST.6-8.2)</p> <p>f. Provide a concluding statement or section that follows from and supports the information or explanation presented. (WHST.6-8.2)</p>	<p>d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.</p> <p>e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). (WHST.9-10.2)</p>	<p>d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (WHST.11-12.2)</p>
<p>(See note; not applicable as a separate requirement) (WHST.6-8.3)</p> <p>Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can</p>	<p>(See note; not applicable as a separate requirement) (WHST.9-10.3)</p> <p>Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can</p>	<p>(See note; not applicable as a separate requirement). (WHST.11-12.3)</p> <p>Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can</p>

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Grade 6-8 students:	Grade 9-10 students:	Grade 11-12 students:
replicate them and (possibly) reach the same results.	replicate them and (possibly) reach the same results.	replicate them and (possibly) reach the same results.
Production and Distribution of Writing		
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (WHST.6-8.4)	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (WHST.9-10.4)	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (WHST.11-12.4)
With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (WHST.6-8.5)	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (WHST.9-10.5)	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (WHST.11-12.5)
Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. (WHST.6-8.6)	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically. (WHST.9-10.6)	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (WHST.11-12.6)
Research to Build and Present Knowledge		
Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. (WHST.6-8.7)	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. (WHST.9-10.7)	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. (WHST.11-12.7)

K-12 Iowa Core in Social Studies

Grade 6-8 students:	Grade 9-10 students:	Grade 11-12 students:
<p>Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. (WHST.6-8.8)</p>	<p>Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. (WHST.9-10.8)</p>	<p>Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (WHST.11-12.8)</p>
<p>Draw evidence from informational texts to support analysis, reflection, and research. (WHST.6-8.9)</p>	<p>Draw evidence from informational texts to support analysis, reflection, and research. (WHST.9-10.9)</p>	<p>Draw evidence from informational texts to support analysis, reflection, and research. (WHST.11-12.9)</p>
Range of Writing		
<p>Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. (WHST.6-8.10)</p>	<p>Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. (WHST.9-10.10)</p>	<p>Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. (WHST.11-12.10)</p>

Business Education Standards

Demonstrate knowledge of how to create, access, and utilize information through technology

- A. Understand basic fundamentals of computer operation
- B. Use effective technology to process and interpret information

Understand and apply skills in the study of financial management

- A. Understand the various steps of the accounting cycle and explain the purpose of each step
- B. Understand the principles of check writing and reconciling
- C. Understand the risk management factors involved in running a business
- D. Develop procedures for managing finances, planning for expenses, and saving
- E. Understand the role of investments for future planning

Understand business concepts relating to economic systems

- A. Analyze the role of supply and demand in the U.S. economy
- B. Discuss the role of government in each of the economic systems
- C. Explain the economy measuring devices such as: gross national product, unemployment, and inflation

Understand the nature of the laws affecting business

- A. Understand the different aspects of civil versus criminal law
- B. Analyze the relationship between ethics and law
- C. Explain the legal rules that apply to personal and real property

Visual Arts Standards

Grade 9 – 12

Media and Manipulation

Standard 1. Understands and applies materials, techniques, and processes.

Benchmarks

1. Uses two-dimensional and three-dimensional media, techniques, and processes to communicate an idea or concept based on research, the environment, personal experience, observation, or imagination.
 - * Creates works of visual art that demonstrate an understanding of how their ideas relate to media, techniques, and processes
 - * Solves visual problems independently through research, environmental awareness, and personal experiences
2. Uses tools, media, techniques, and processes proficiently, knowledgeably, and in a safe and responsible manner.
 - * Applies media, techniques, and processes correctly
 - * Knows how to use media and tools safely and responsibly
3. Uses effective control of media, techniques, and tools when communicating an idea in both two-dimensional and three-dimensional works of art.
 - * Applies media, techniques and tools with sufficient skill
 - * Applies media and processes so that intentions are carried out in artworks

Creativity and Communication

Standard 2. Understands and explores a range of subject matter, symbols and ideas while using the elements and principles of design to create art.

Benchmarks

1. Applies various subjects, symbols, and ideas in works of art.
 - * Knows the origins of specific images and ideas and why they are of value in their artwork and in the works of others
 - * Applies subjects, symbols, and ideas in their artworks and uses the skills gained to solve problems in daily life
2. Knows how the elements and principles of design can be used to solve specific visual art problems.
 - * Demonstrates the use of elements and principles of design in artwork
 - * Evaluates the effectiveness of artworks in terms of the elements and principles of design
3. Understands that works of art can communicate an idea and elicit a variety of responses through the use of selected media, techniques, and processes.
 - * Selects and adapts media and techniques suited to their personal style
 - * Demonstrates multiple solutions to artistic problems and makes appropriate selections of ideas from many possibilities.

History and Culture

Standard 3. Understands the visual arts in relation to history and culture.

1. Understands how social, cultural, ecological, economic, religious, and political conditions influence the function, meaning, and execution of works of art.
 - * Knows that artists are influenced by available media, the work of other artists, historical events, and society.
 - * Knows cross-cultural commonalities in the visual world

2. Understands how recognized artists recorded, affected, or influenced change in a historical, cultural, or religious context.

* Knows and identifies the work of individual artists, as well as works representing different styles and periods

Reflection

Standard 4. Understands and reflects upon the characteristics and merits of one's own artwork and the artwork of others.

1. Understands and determines the differences between the artist's intent and public interpretation.

* Identifies the intentions of those creating artworks

* Knows the difference between the intentions of artists in the creation of original works and the intentions of those who appropriate and parody those works

2. Understands critical and aesthetic statements in terms of historical reference while researching works of art.

* Analyzes how specific works are created and how they relate to historical and cultural context

* Responds to own artwork and the art of others in oral and written form

Applications to Life

Standard 5. Understands connections between visual arts, other disciplines and the real world.

1. Knows and makes connections between visual arts and other disciplines.

2. Understands and identifies the skills that artists use in various careers to promote creativity, fluency, flexibility, and elaboration within the arts and across life.

* Knows about various careers related to the visual arts

* Compares the materials, technologies, media, and processes of the visual arts with those of other disciplines

3. Knows how to communicate with the public, the consumer, and the artistic community about aesthetic questions, entertainment, resources, and choices in education.

* Knows and participates in community-based art experiences as an artist or observer

* Knows and understands the roles of museums, cultural centers, and exhibition spaces

Standards for Vocal Music

1. Sings, alone and with others, a varied repertoire of music, using correct posture and singing technique.

Grades 9-12

Sings a varied repertoire of vocal literature with expression and technical accuracy at a moderate level of difficulty (e.g., attention to phrasing and interpretation, various meters and rhythms in a variety of keys)

- sings vocal exercises
- sings songs

Sings music written in four or more parts, with and without accompaniment

- sings choral songs

uses ensemble skills (e.g., balance, intonation, rhythmic unity)

- sings vocal exercises
- sings songs

2. Reads and notates music.

Grades 9-12

Reads a vocal score of up to four staves

- understands and performs within choral music

Reads music that contains moderate technical demands, expanded ranges and varied interpretative requirements

- understands and performs within choral music

3. Knows and applies appropriate criteria to music and musical performances.

Grades 9-12

Understands the technical vocabulary of music (e.g., Italian terms, form, harmony, tempo markings)

- recognizes and understands the usage of Italian terms

Knows specific criteria that affect the quality and effectiveness of musical performances, compositions, arrangements and improvisations

- reads and performs with expression and musicality
- sings with proper support and tone
- sings with proper tone quality, diction, rhythm, and intonation

4. Understands the relationship between music and history and culture

Grades 9-12

Knows sources of American and International music genres

- aurally identifies styles of music
- can aurally identify musician of those genres
- is aware of music in movies and television

CREATING

Imagine

Generate musical ideas for various purposes and contexts.

Essential Question: How do musicians generate creative ideas?			
Enduring Understanding: The creative ideas, concepts, and feelings that influence musicians' work emerge from a variety of sources.		Essential Question: How do musicians generate creative ideas?	
Novice	Intermediate	Proficient	Advanced
<p>MU:Cr1.1.E.5a Compose and improvise melodic and rhythmic ideas or motives that reflect characteristic(s) of music or text(s) studied in rehearsal.</p>	<p>MU:Cr1.1.E.8a Compose and improvise ideas for <i>melodies and rhythmic passages</i> based on characteristic(s) of music or text(s) studied in rehearsal.</p>	<p>MU:Cr1.1.E.1a Compose and improvise ideas for <i>melodies, rhythmic passages, and arrangements</i> for specific purposes that reflect characteristic(s) of music from a variety of <i>historical periods</i> studied in rehearsal.</p>	<p>MU:Cr1.1.E.11a Compose and improvise ideas for <i>arrangements, sections, and short compositions</i> for specific purposes that reflect characteristic(s) of music from a variety of <i>cultures</i> studied in rehearsal.</p>
Common Anchor #1			

Plan and Make

Select and develop musical ideas for defined purposes and contexts.

Essential Question: How do musicians make creative decisions?			
Enduring Understanding: Musicians' creative choices are influenced by their expertise, context, and expressive intent.		Essential Question: How do musicians make creative decisions?	
Novice	Intermediate	Proficient	Advanced
<p>MU:Cr2.1.E.5a Select and develop draft melodic and rhythmic ideas or motives that demonstrate understanding of characteristic(s) of music or text(s) studied in rehearsal.</p>	<p>MU:Cr2.1.E.8a Select and develop draft <i>melodies and rhythmic passages</i> that demonstrate understanding of characteristic(s) of music or text(s) studied in rehearsal.</p>	<p>MU:Cr2.1.E.1a Select and develop draft <i>melodies, rhythmic passages, and arrangements</i> for specific purposes that demonstrate understanding of characteristic(s) of music from a variety of <i>historical periods</i> studied in rehearsal.</p>	<p>MU:Cr2.1.E.11a Select and develop composed and improvised ideas into draft <i>musical works</i> organized for a variety of <i>purposes and contexts</i>.</p>
<p>MU:Cr2.1.E.5b Preserve draft compositions and improvisations through standard notation and audio recording.</p>	<p>MU:Cr2.1.E.8b Preserve draft compositions and improvisations through standard notation and audio recording.</p>	<p>MU:Cr2.1.E.1a Preserve draft compositions and improvisations through standard notation and audio, or video recording.</p>	<p>MU:Cr2.1.E.11a Preserve draft <i>musical works</i> through standard notation, audio, or video recording.</p>
Common Anchor #2			

2014 Music Standards (Ensemble)

Evaluate and Refine			
Evaluate and refine selected musical ideas to create musical work that meets appropriate criteria.			
Essential Question: How do musicians improve the quality of their creative work?			
Enduring Understanding: Musicians evaluate and refine their work through openness to new ideas, persistence, and the application of appropriate criteria.	Novice	Intermediate	Proficient
	Accomplished	Advanced	
MU:Cr3.1.E.5a Evaluate and refine draft compositions and improvisations based on knowledge, skill, and teacher-provided criteria.	MU:Cr3.1.E.8a Evaluate and refine draft compositions and improvisations based on knowledge, skill, and collaboratively-developed criteria.	MU:Cr3.1.E.1a Evaluate and refine draft melodies, rhythmic passages, arrangements, and improvisations based on established criteria, including the extent to which they address identified purposes.	MU:Cr3.1.E.11a Evaluate and refine draft arrangements, sections, short compositions, and improvisations based on personally-developed criteria, including the extent to which they address identified purposes.
Present			
Share creative musical work that conveys intent, demonstrates craftsmanship, and exhibits originality.			
Enduring Understanding: Musicians' presentation of creative work is the culmination of a process of creation and communication.	Novice	Intermediate	Proficient
	Accomplished	Advanced	
MU:Cr3.2.E.5a Share personally-developed melodic and rhythmic ideas or motives – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.	MU:Cr3.2.E.8a Share personally-developed melodies and rhythmic passages – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.	MU:Cr3.2.E.1a Share personally-developed melodies, rhythmic passages, and arrangements – individually or as an ensemble – that address identified purposes.	MU:Cr3.2.E.11a Share personally-developed musical works – individually or as an ensemble – that address identified purposes and contexts.

PERFORMING

Select

Select varied musical works to present based on interest, knowledge, technical skill, and context.

Enduring Understanding: Performers' interest in and knowledge of musical works, understanding of their own technical skill, and the context for a performance influence the selection of repertoire.		Essential Question: How do performers select repertoire?	
Novice	Intermediate	Proficient	Accomplished
<p>MU:Pr4.1.E.5a Select varied repertoire to study based on interest, music reading skills (where appropriate), an understanding of the structure of the music, context, and the technical skill of the individual or ensemble.</p>	<p>MU:Pr4.1.E.8a Select a varied repertoire to study based on music reading skills (where appropriate), an understanding of formal design in the music, context, and the technical skill of the individual or ensemble.</p>	<p>MU:Pr4.1.E.1a Explain the criteria used to select a varied repertoire to study based on an understanding of theoretical and structural characteristics of the music, the technical skill of the individual or ensemble, and the purpose or context of the performance.</p>	<p>MU:Pr4.1.E.11a Develop and apply criteria to select varied programs to study and perform based on an understanding of theoretical and structural characteristics and expressive challenges in the music, the technical skill of the individual or ensemble, and the purpose and context of the performance.</p>

Analyze

Analyze the structure and context of varied musical works and their implications for performance.

Enduring Understanding: Analyzing creators' context and how they manipulate elements of music provides insight into their intent and informs performance.		Essential Question: How does understanding the structure and context of musical works inform performance?	
Novice	Intermediate	Proficient	Accomplished
<p>MU:Pr4.2.E.5a Demonstrate, using music reading skills where appropriate, how knowledge of formal aspects in musical works inform prepared or improvised performances.</p>	<p>MU:Pr4.2.E.5a Demonstrate, using music reading skills where appropriate, how the setting and formal characteristics of musical works contribute to understanding the context of the music in prepared or improvised performances.</p>	<p>MU:Pr4.2.E.1a Demonstrate, using music reading skills where appropriate, how compositional devices employed and theoretical aspects of musical works impact and inform prepared or improvised performances.</p>	<p>MU:Pr4.2.E.11a Examine, evaluate, and critique, using music reading skills where appropriate, how the structure and context impact and inform prepared and improvised performances.</p>

Interpret

Develop personal interpretations that consider creators' intent.

Enduring Understanding: Performers make interpretive decisions based on their understanding of context and expressive intent.		Essential Question: How do performers interpret musical works?	
Novice	Intermediate	Proficient	Accomplished
<p>MU:Pr4.3.E.5a Identify expressive qualities in a varied repertoire of music that can be demonstrated through prepared and improvised performances.</p>	<p>MU:Pr4.3.E.8a Demonstrate understanding and application of expressive qualities in a varied repertoire of music through prepared and improvised performances.</p>	<p>MU:Pr4.3.E.1a Demonstrate an understanding of context in a varied repertoire of music through prepared and improvised performances.</p>	<p>MU:Pr4.3.E.11a Demonstrate how understanding the style, genre, and context of a varied repertoire of music informs prepared and improvised performances as well as performers' technical skill to connect with the audience.</p>

2014 Music Standards (Ensemble)

Rehearse, Evaluate and Refine			
<i>Evaluate and refine personal and ensemble performances, individually or in collaboration with others.</i>			
Essential Question: How do musicians improve the quality of their performance?		Essential Question: How do musicians improve the quality of their performance?	
Novice	Intermediate	Proficient	Advanced
<p>Enduring Understanding: To express their musical ideas, musicians analyze, evaluate, and refine their performances over time through openness to new ideas, persistence, and the application of appropriate criteria.</p> <p>MU:Pr5.3.E.5a Use self-reflection and peer feedback to refine individual and ensemble performances of a varied repertoire of music.</p>	<p>MU:Pr5.3.E.8a Develop strategies to address technical challenges in a varied repertoire of music and evaluate their success using feedback from ensemble peers and other sources to refine performances.</p>	<p>MU:Pr5.3.E.1a Develop strategies to address expressive challenges in a varied repertoire of music, and evaluate their success using feedback from ensemble peers and other sources to refine performances.</p>	<p>MU:Pr5.3.E.11a Develop and apply appropriate rehearsal strategies to address individual and ensemble challenges in a varied repertoire of music.</p>
Present			
<i>Perform expressively, with appropriate interpretation and technical accuracy, and in a manner appropriate to the audience and context.</i>			
Essential Question: Musicians judge performance based on criteria that vary across time, place, and cultures. The context and how a work is presented influence the audience response.		Essential Question: When is a performance judged ready to present? How do context and the manner in which musical work is presented influence audience response?	
Novice	Intermediate	Proficient	Advanced
<p>MU:Pr6.1.E.5a Demonstrate attention to technical accuracy and expressive qualities in prepared and improvised performances of a varied repertoire of music.</p>	<p>MU:Pr6.1.E.8a Demonstrate attention to technical accuracy and expressive qualities in prepared and improvised performances of a varied repertoire of music representing diverse cultures and styles.</p>	<p>MU:Pr6.1.E.1a Demonstrate attention to technical accuracy and expressive qualities in prepared and improvised performances of a varied repertoire of music representing diverse cultures, styles, and genres.</p>	<p>MU:Pr6.1.E.11a Demonstrate an understanding and mastery of the technical demands and expressive qualities of the music through prepared and improvised performances of a varied repertoire representing diverse cultures, styles, genres, and historical periods in multiple types of ensembles.</p>
<p>MU:Pr6.1.E.5b Demonstrate an awareness of the context of the music through prepared and improvised performances.</p>	<p>MU:Pr6.1.E.5b Demonstrate an understanding of the context of the music through prepared and improvised performances.</p>	<p>MU:Pr6.1.E.1b Demonstrate an understanding of expressive intent by connecting with an audience through prepared and improvised performances.</p>	<p>MU:Pr6.1.E.11b Demonstrate an ability to connect with audience members before and during the process of engaging with and responding to them through prepared and improvised performances.</p>

RESPONDING

Select			
Choose music appropriate for specific purposes and contexts.			
Essential Question: How do individuals choose music to experience?			
Novice	Intermediate	Proficient	Advanced
<p>MU:Re7.1.E.5a Identify reasons for selecting music based on characteristics found in the music, connection to interest, and purpose or context.</p>	<p>MU:Re7.1.E.8a Explain reasons for selecting music citing characteristics found in the music and connections to interest, purpose, and context.</p>	<p>MU:Re7.1.E.1a Apply criteria to select music for specified purposes, supporting choices by citing characteristics found in the music and connections to interest, purpose, and context.</p>	<p>MU:Re7.1.E.11a Use research and personally-developed criteria to justify choices made when selecting music, citing knowledge of the music, and individual and ensemble purpose and context.</p>
<p>Analyze</p> <p>Analyze how the structure and context of varied musical works inform the response.</p>			
<p>Enduring Understanding: Response to music is informed by analyzing context (social, cultural, and historical) and how creators and performers manipulate the elements of music.</p>			
<p>Essential Question: How does understanding the structure and context of the music influence a response?</p>			
Novice	Intermediate	Proficient	Advanced
<p>MU:Re7.2.E.5a Identify how knowledge of context and the use of repetition, similarities, and contrasts inform the response to music.</p>	<p>MU:Re7.2.E.8a Describe how understanding context and the way the elements of music are manipulated inform the response to music.</p>	<p>MU:Re7.2.E.11a Explain how the analysis of passages and understanding the way the elements of music are manipulated inform the response to music.</p>	<p>MU:Re7.2.E.11a Demonstrate and justify how the analysis of structures, contexts, and performance decisions inform the response to music.</p>
<p>Interpret</p> <p>Support an interpretation of a musical work that reflects the creators'/performers' expressive intent.</p>			
<p>Enduring Understanding: Through their use of elements and structures of music, creators and performers provide clues to their expressive intent.</p>			
<p>Essential Question: How do we discern the musical creators' and performers' expressive intent?</p>			
Novice	Intermediate	Proficient	Advanced
<p>MU:Re8.1.E.5a Identify interpretations of the expressive intent and meaning of musical works, referring to the elements of music, contexts, and (when appropriate) the setting of the text.</p>	<p>MU:Re8.1.E.8a Identify and support interpretations of the expressive intent and meaning of musical works, citing as evidence the treatment of the elements of music, contexts, and (when appropriate) the setting of the text.</p>	<p>MU:Re8.1.E.11a Explain and support interpretations of the expressive intent and meaning of musical works, citing as evidence the treatment of the elements of music, contexts, (when appropriate) the setting of the text, and varied researched sources.</p>	<p>MU:Re8.1.E.11a Justify interpretations of the expressive intent and meaning of musical works by comparing and synthesizing varied researched sources, including reference to other art forms.</p>

Common Anchor #

2014 Music Standards (Ensemble)

Evaluate					
<i>Support personal evaluation of musical works and performance(s) based on analysis, interpretation, and established criteria.</i>					
Enduring Understanding: The personal evaluation of musical work(s) and performance(s) is informed by analysis, interpretation, and established criteria.					
Essential Question: How do we judge the quality of musical work(s) and performance(s)?					
	Novice	Intermediate	Proficient	Accomplished	Advanced
Common Anchor #5	<p>MU:Re9.1.E.5a Identify and describe the effect of interest, experience, analysis, and context on the evaluation of music.</p>	<p>MU:Re9.1.E.8a Explain the influence of experiences, analysis, and context on interest in and evaluation of music.</p>	<p>MU:Re9.1.E.1a Evaluate works and performances based on personally- or collaboratively-developed criteria, including analysis of the structure and context.</p>	<p>MU:Re9.1.E.1a Evaluate works and performances based on research as well as personally- and collaboratively-developed criteria, including analysis and interpretation of the structure and context.</p>	<p>MU:Re9.1.E.11a Develop and justify evaluations of music, programs of music, and performances based on criteria, personal decision-making, research, and understanding of contexts.</p>

CONNECTING

Connect #10

Synthesize and relate knowledge and personal experiences to make music.

Enduring Understanding: Musicians connect their personal interests, experiences, ideas, and knowledge to creating, performing, and responding.

Essential Question: How do musicians make meaningful connections to creating, performing, and responding?

Novice	Intermediate	Proficient	Accomplished	Advanced
<p>MU:Cn10.0.H.5a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C3.2.E.5a Share personally-developed melodic and rhythmic ideas or motives – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p> <p>MU:P4.1.E.5a Select varied repertoire to study based on interest, music reading skills (where appropriate), an understanding of the structure of the music, context, and the technical skills of individual or ensemble.</p> <p>MU:P4.3.E.5a Identify expressive qualities in a varied repertoire of music that can be demonstrated through prepared and improvised performances.</p> <p>MU:R6/7.E.5a Identify reasons for selecting music based on characteristics found in the music, connection to interest, and purpose or context.</p>	<p>MU:Cn10.0.H.8a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C3.2.E.8a Share personally-developed <i>melodies and rhythmic passages</i> – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p> <p>MU:P4.2.E.8a Select a varied repertoire to study based on music reading skills (where appropriate), an understanding of <i>formal design</i> in the music, context, and the technical skills of the individual and ensemble.</p> <p>MU:P6.1.E.8a Demonstrate understanding and application of expressive qualities in a varied repertoire of music through prepared and improvised performances.</p> <p>MU:R6/7.E.8a Explain reasons for selecting music citing characteristics found in the music and connections to interest, purpose, and context.</p>	<p>MU:Cn10.0.H.1a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C3.2.E.1a Share personally-developed melodies, rhythmic passages, and arrangements – individually or as an ensemble – that address identified purposes.</p> <p>MU:P4.1.E.1a Explain the criteria used to select a varied repertoire to study based on an understanding of <i>theoretical and structural characteristics of the music</i>, the technical skills of the individual or ensemble, and the purpose or context of the performance.</p> <p>MU:P4.3.E.1a Demonstrate an understanding of context in a varied repertoire of music through prepared and improvised performances.</p> <p>MU:R6/7.E.1a Apply criteria to select music for specified purposes, supporting choices by citing characteristics found in the music and connections to interest, purpose, and context.</p>	<p>MU:Cn10.0.H.1a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C3.2.E.1a Share personally-developed <i>arrangements, sections, and short compositions</i> – individually or as an ensemble – that address identified purposes.</p> <p>MU:P4.1.E.1a Develop and apply criteria to select a varied repertoire to study and perform based on an understanding of <i>theoretical and structural characteristics</i> and expressive challenges in the music, the technical skills of the individual or ensemble, and the purpose and context of the performance.</p> <p>MU:P4.3.E.1a Demonstrate how understanding the style, genre, and context of a varied repertoire of music informs prepared and improvised performances as well as performers' technical skill to connect with the audience.</p> <p>MU:R6/7.E.1a Use research and personally-developed criteria to justify choices made when selecting music, citing knowledge of the music, and individual and ensemble purpose and context.</p>	<p>MU:Cn10.0.H.11a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C3.2.E.11a Share varied, personally-developed <i>musical works</i> – individually or as an ensemble – that address identified purposes and contexts.</p> <p>MU:P4.1.E.11a Develop and apply criteria to select varied programs to study and perform based on an understanding of <i>theoretical and structural characteristics</i> and expressive challenges in the music, the technical skills of the individual or ensemble, and the purpose and context of the performance.</p> <p>MU:P4.3.E.11a Demonstrate how understanding the style, genre, and context of a varied repertoire of music informs prepared and improvised performances as well as performers' technical skill to connect with the audience.</p> <p>MU:R6/7.E.11a Use research and personally-developed criteria to justify choices made when selecting music, citing knowledge of the music, and individual and ensemble purpose and context.</p>

2014 Music Standards (Ensemble)

Connect #11	
Relate musical ideas and works with varied context to deepen understanding.	
Essential Question: How do the other arts, other disciplines, contexts and daily life inform creating, performing, and responding to music?	
Enduring Understanding: Understanding connections to varied contexts and daily life enhances musicians' creating, performing, and responding.	Proficient
Novice	Intermediate
<p>MU-Cri1.0.T.5a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU-Cri.1.E.5a Compose and improvise melodic and rhythmic ideas or motives that reflect characteristic(s) of music or text(s) studied in rehearsal.</p> <p>MU-C3.2.E.5a Share personally-developed melodic and rhythmic ideas or motives – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p> <p>MU-Pr6.1.E.5a Demonstrate an awareness of the context of the music through prepared and improvised performances.</p> <p>MU-Res.1.E.5a Identify and describe the effect of interest, experience, analysis, and context on the evaluation of music.</p>	<p>MU-Cri1.0.T.1a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU-Cri.1.E.1a Compose and improvise ideas for melodies, rhythmic passages, and arrangements for specific purposes that reflect characteristic(s) of music from a variety of historical periods studied in rehearsal.</p> <p>MU-C3.2.E.1a Share personally-developed melodies, rhythmic passages, and arrangements – individually or as an ensemble – that address identified purposes.</p> <p>MU-Pr6.1.E.1a Demonstrate an understanding of expressive intent by connecting with an audience through prepared and improvised performances.</p> <p>MU-Res.1.E.1a Evaluate works and performances based on personally- or collaboratively-developed criteria, including analysis of the structure and context.</p>
<p>MU-Cri1.0.T.1.8a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU-Cri.1.E.8a Compose and improvise ideas for melodies and rhythmic passages based on characteristic(s) of music or text(s) studied in rehearsal.</p> <p>MU-C3.2.E.8a Share personally-developed melodies and rhythmic passages – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p> <p>MU-Pr6.1.E.8a Demonstrate an understanding of the context of the music through prepared and improvised performances.</p> <p>MU-Res.1.E.8a Explain the influence of experiences, analysis, and context on interest in and evaluation of music.</p>	<p>MU-Cri1.0.T.1.1a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU-Cri.1.E.1.1a Compose and improvise ideas for specific purposes that reflect characteristic(s) of music from a variety of cultures studied in rehearsal.</p> <p>MU-C3.2.E.1.1a Share personally-developed arrangements, sections, and short compositions – individually or as an ensemble – that address identified purposes.</p> <p>MU-Pr6.1.E.1.1a Demonstrate an understanding of intent as a means for connecting with an audience through prepared and improvised performances.</p> <p>MU-Res.1.E.1.1a Evaluate works and performances based on research as well as personally- and collaboratively-developed criteria, including analysis and interpretation of the structure and context.</p>
<p>MU-Cri1.0.T.1.11a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU-Cri.1.E.1.11a Compose and improvise musical ideas for a variety of purposes and contexts.</p> <p>MU-C3.2.E.1.11a Share varied, personally-developed musical works – individually or as an ensemble – that address identified purposes and contexts.</p> <p>MU-Pr6.1.E.1.11a Demonstrate an ability to connect with audience members before and during the process of engaging with and responding to them through prepared and improvised performances.</p> <p>MU-Res.1.E.1.11a Develop and justify evaluations of music, programs of music, and performances based on criteria, personal decision-making, research, and understanding of contexts.</p>	<p>MU-Cri1.0.T.1.11a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU-Cri.1.E.1.11a Compose and improvise musical ideas for a variety of purposes and contexts.</p> <p>MU-C3.2.E.1.11a Share varied, personally-developed musical works – individually or as an ensemble – that address identified purposes and contexts.</p> <p>MU-Pr6.1.E.1.11a Demonstrate an ability to connect with audience members before and during the process of engaging with and responding to them through prepared and improvised performances.</p> <p>MU-Res.1.E.1.11a Develop and justify evaluations of music, programs of music, and performances based on criteria, personal decision-making, research, and understanding of contexts.</p>

Common Anchor #11

GHV Strength Training PE & Regular PE: Standards

Standard 1. The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.

- Strength Training P.E. will utilize numerous different lifts and techniques to ensure that students are competent in a variety of different movements. Strength and Conditioning P.E. will use different training principles that teach different movement patterns.

Student Indicators:

Students will be able to execute numerous lifts while using the correct form, in a variety of different movement patterns (Cross Fit, Olympic lifts, body weight exercises, footwork drills).

- Regular P.E. will demonstrate competency in many movement forms and applies those concepts and principles to the learning and development of motor skills

Student Indicators:

Transfers movement and manipulative skills to individual exercises as well as a variety of sports activities.

Understands simple biomechanics of various movements to enhance human movement.

Standard 2. The physically literate individual applies knowledge of concepts, principles, strategies and tactics related to movement and performance.

- Strength Training P.E. will teach students the correct terminology and strength training principles. This will help students understand why they are doing certain lifts in order to enhance performance.

Student Indicators:

Students will be able to tell you why they are doing certain lifts and workouts in order to become better athletes.

Students will be able to use feedback from the teacher or other students on how to help their form become perfect.

- Regular P.E. Understands, monitors, and applies the FITT principles.

Student Indicators:

Is able to plan and implement workout plans and exercises based on their fitness needs. Identifies activities that develop the health and skill related fitness concepts.

- Regular P.E. Demonstrates the ability to use strategy and problem solving skills during activities.

Student Indicators:

Uses combined movement patterns in a more complex exercise environment.
Transfers critical thinking skills and strategy to team and individual sports and games.

Standard 3. The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.

- Strength Training P.E. will teach the students concepts and technique in weight lifting that students can use outside of school and in their daily lives, thus making them life long learners and competent in the ability to maintain a health-enhancing level of physical activity and fitness.

Student Indicators:

Students will be able to engage in meaningful physical activity on a daily basis. This physical activity should be personally rewarding to them.

Students will be able to put together a workout of their own at the end of the semester that they can use outside of school.

- Regular P.E. Develops an awareness of value and benefits of participation in daily physical activity to improve the quality of life.

Student Indicators:

Exhibits positive attitude during a variety of activities and strives to improve at a variety of skills and exercises.

Students will be able to engage in meaningful physical activity on a daily basis. This physical activity should be personally rewarding to them.

Students will be able to put together a workout of their own at the end of the semester that they can use outside of school.

Standard 4. The physically literate individual exhibits responsible personal and social behavior that respects self and others.

- Strength Training P.E. and Regular PE will hold students to a standard of the GHV 4 core values, more specifically, "be yourself and be respectful of others being themselves."

Student Indicators:

Students will be able to demonstrate a positive attitude towards peers and adults and create a positive environment to engage in physical activity.

Students will be respectful of peers and adults.

Students will be willing to attempt new and different physical activities.

- Regular P.E.: Demonstrates the ability to work cooperatively to accomplish a common goal and uses cognitive and social skills to work together and aid others with differences.

Student Indicators:

Conveys sportsmanship and positive communication during activity.

Models fair and ethical behavior.

Standard 5. The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

- Strength Training P.E. will teach students that weight lifting and other weight room activities can be used to challenge one self along with making friends and expressing one self. This is especially true after students have graduated and are no longer in the high school setting.

Student Indicators:

Students will be able to understand the positive affects that physical activity has on their body and mind.

Students will be able to understand that physical activity can be used as an avenue to make new friends and to interact socially with new people.

Regular P.E.: Students will build a variety of exercises, activities and workouts to do for the present time and future.

Student Indicators:

Students will be able to understand the positive affects that physical activity has on their body and mind.

Students will be able to understand that physical activity can be used as an avenue to make new friends and to interact socially with new people.

Sets reasonable goals to improve fitness levels and personal health standards.

HS/FCS Foundational Standards	
1.0	Comprehensive Standard Integrate knowledge, skills, and practices needed for a career in the human services cluster (family and human services, hospitality and tourism, education and training, housing and apparel).
1.1	Content Standard Analyze career paths within human service industries.
	Competencies
1.1.1	Explain roles and functions of individuals engaged in human service careers.
1.1.2	Analyze opportunities for employment and entrepreneurial endeavors.
1.1.3	Summarize education and training requirements and opportunities for career paths.
1.1.4	Analyze the impact of the industry on local, state, national, and global economies.
1.1.5	Create an employment portfolio to communicate skills needed for careers in human services.
1.1.6	Analyze the role of professional organizations and credentials in human service professions.
2.0	Comprehensive Standard Integrate multiple life roles and responsibilities in family, work, and community settings.
2.1	Content Standard Analyze strategies to manage multiple roles and responsibilities (individual, family, career, community, and global).
	Competencies
2.1.1.	Summarize local and global policies, issues, and trends in workplace, community, and family dynamics that affect individuals and families.
2.1.2	Analyze potential effects of various career path decisions on balancing work and family.
2.1.3	Develop a life plan, including pathways to acquiring the knowledge and skills needed to achieve individual, family, and career goals.
2.2	Content Standard Demonstrate transferable knowledge, attitudes, and technical and employability skills in school, community and workplace settings.
	Competencies
2.2.1	Analyze potential career choices to determine the knowledge, skills, attitudes, and opportunities associated with each career.
2.2.2	Demonstrate job seeking and job keeping skills.
2.2.3	Apply communication skills in school, community and workplace settings and with diverse populations.
2.2.4	Demonstrate collaborative skills in school, community and workplace settings and with diverse populations.
2.2.5	Demonstrate leadership skills and abilities in school, workplace and community settings.
2.2.6	Demonstrate employability skills, work ethics, and professionalism.
2.3	Content Standard Evaluate the reciprocal effects of individual and family participation in community and civic activities.
	Competencies

HS/FCS Foundational Standards	
2.3.1	Demonstrate skills that individuals and families can utilize to support civic engagement in community activities.
2.3.2	Analyze personal and family assets and skills that provide service to the community.
2.3.3	Analyze community resources and systems of formal and informal support available to individuals and families.
2.3.4	Identify ways individuals and families can influence change in policies, agencies, and institutions that affect individuals and families.
3.0	Comprehensive Standard Demonstrate respectful and caring relationships in the family, workplace and community.
3.1	Content Standard Analyze functions and expectations of various types of relationships.
	Competencies
3.1.1	Analyze processes for building and maintaining interpersonal relationships.
3.1.2	Predict the effects of various stages of the family life cycle on interpersonal relationships.
3.1.3	Compare physical, emotional, spiritual and intellectual functioning in stable and unstable relationships.
3.1.4	Analyze factors that contribute to healthy and unhealthy relationships.
3.1.5	Analyze processes for handling unhealthy relationships.
3.1.6	Demonstrate stress management strategies for family, work, and community settings.
3.2	Content Standard Analyze personal needs and characteristics and their effects on interpersonal relationships.
	Competencies
3.2.1	Analyze the effects of personal characteristics on relationships.
3.2.2	Analyze the effect of personal need on relationships.
3.2.3	Analyze the effects of self-esteem and self-image on relationships.
3.2.4	Analyze the effects of life span events and conditions on relationships.
3.2.5	Explain the effects of personal standards and behaviors on interpersonal relationships.
3.3	Content Standard Demonstrate communication skills that contribute to positive relationships.
	Competencies
3.3.1	Analyze communication styles and their effects on relationships.
3.3.2	Demonstrate verbal and nonverbal behaviors and attitudes that contribute to effective communication.
3.3.3	Demonstrate effective listening and feedback techniques.
3.3.4	Analyze strategies to overcome communication barriers in family, community and work settings.
3.3.5	Apply ethical principles of communication in family, community and work settings.
3.3.6	Analyze the effects of technology on communications in family, work, and community settings.
3.3.7	Analyze the roles and functions of communications in family, work, and community settings.

State Standards – Iowa, 2019 Human Services/Family and Consumer Sciences

HS/FCS Foundational Standards	
3.4	Content Standard Evaluate effective conflict prevention and management techniques.
	Competencies
3.4.1	Analyze the origin and development of attitudes and behaviors regarding conflict.
3.4.2	Explain how similarities and differences among people affect conflict prevention and management.
3.4.3	Apply the roles of decision making and problem solving in reducing and managing conflict.
3.4.4	Demonstrate nonviolent strategies that address conflict.
3.4.5	Demonstrate effective responses to harassment.
3.4.6	Assess community resources that support conflict prevention and management.
3.5	Content Standard Demonstrate teamwork and leadership skills in the family, workplace, and community.
	Competencies
3.5.1	Create an environment that encourages and respects the ideas, perspectives, and contributions of all group members.
3.5.2	Demonstrate strategies to motivate, encourage, and build trust in group members.
3.5.3	Demonstrate strategies that utilize the strengths and minimize the limitations of team members.
3.5.4	Demonstrate techniques that develop team and community spirit.
3.5.5	Demonstrate ways to organize and delegate responsibilities.
3.5.6	Create strategies to integrate new team members.
3.5.7	Demonstrate processes for cooperating, compromising, and collaborating.
3.6	Content Standard Demonstrate standards that guide behavior in interpersonal relationships.
	Competencies
3.6.1	Apply ethical guidelines when assessing interpersonal issues and situations.
3.6.2	Apply critical thinking and ethical standards when making judgments and taking action.
3.6.3	Demonstrate ethical behavior in family, workplace, and community settings.
3.6.4	Compare and contrast points of view regarding current ethical issues.
4.0	Comprehensive Standard Analyze factors that influence human growth and development.
4.1	Content Standard Analyze principles of human growth and development across the life span.
	Competencies
4.1.1	Analyze physical, emotional, social, moral, and cognitive development.
4.1.2	Analyze interrelationships among physical, emotional, social, moral, and cognitive aspects of human growth and development.
4.1.3	Analyze current and emerging research about human growth and development, including but not limited to brain development research.
4.2	Content Standard Analyze conditions that influence human growth and development.
	Competencies
4.2.1	Analyze the influences of heredity and environment on human growth and development.

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4.2.2	Analyze the influences of social, economic, and technological forces on individual growth and development.
4.2.3	Analyze the influences of gender, ethnicity, and culture on individual development.
4.2.4	Analyze the influences of life events on individuals' physical, emotional, social, moral and cognitive development.
4.2.5	Analyze geographic, demographic, political, and global influences on human growth and development.
4.3	Content Standard Analyze strategies that promote growth and development across the life span.
	Competencies
4.3.1	Analyze the role of nurturance on human growth and development.
4.3.2	Analyze the role of communication on human growth and development.
4.3.3	Analyze the role of education and family and social services support systems and resources in meeting human growth and development needs.
5.0	Comprehensive Standard Evaluate the effects of parenting roles and responsibilities on strengthening the well-being of individuals, families, and society.
5.1	Content Standard Analyze roles and responsibilities of parenting.
	Competencies
5.1.1	Analyze parenting roles across the life span.
5.1.2	Analyze expectations and responsibilities of parenting.
5.1.3	Analyze influences of parenting practices on individuals, families, and society.
5.1.4	Analyze societal conditions that influence parenting across the life span.
5.1.5	Explain cultural differences and similarities in roles and responsibilities of parenting.
5.2	Content Standard Evaluate parenting practices that maximize human growth and development.
	Competencies
5.2.1	Analyze nurturing practices that support human growth and development.
5.2.2	Apply communication strategies that promote emotional well-being in family members.
5.2.3	Assess common practices and emerging research about influences of discipline on human growth and development.
5.2.4	Analyze the effects of abuse and neglect on children and families and determine methods for prevention.
5.2.5	Apply criteria for selecting care and services for children and youth.
5.3	Content Standard Evaluate external support systems that provide services for parents.
	Competencies
5.3.1	Analyze community resources and services available to families.
5.3.2	Analyze community resources that provide opportunities related to parenting.
5.3.3	Analyze current laws and policies related to parenting.
5.3.4	Analyze impacts of advocacy on laws and policies related to parenting.
5.4	Content Standard

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	Analyze physical and emotional factors related to beginning the parenting process.
	Competencies
5.4.1	Analyze biological processes related to prenatal development, birth, and health of child and mother.
5.4.2	Analyze social, emotional, and environmental factors of prenatal development and birth in relation to the health of parents and child.
5.4.3	Analyze alternatives to biological parenthood.
5.4.4	Examine legal and ethical impacts of current and emerging technology on fertility and family planning.
6.0	Comprehensive Standard Demonstrate nutrition and wellness practices that enhance individual and family well-being.
6.1	Content Standard Analyze factors that influence nutrition and wellness practices across the life span.
	Competencies
6.1.1	Explain physical, emotional, social, financial, psychological, cultural, and spiritual components of individual and family wellness.
6.1.2	Investigate the effects of psychological, cultural, and social influences on food choices and other nutrition practices.
6.1.3	Investigate the governmental, economic, and technological influences on food choices and practices.
6.1.4	Analyze the effects of global, regional, and local events and conditions on food choices and practices.
6.1.5	Analyze legislation and regulations related to nutrition and wellness.
6.2	Content Standard Examine the nutritional needs of individuals and families in relation to health and wellness across the life span.
	Competencies
6.2.1	Evaluate the effect of nutrition on health, wellness and performance.
6.2.2	Analyze the relationship of nutrition and wellness to individual and family health throughout the life span.
6.2.3	Analyze the effects of food and diet fads, food addictions, and eating disorders on wellness.
6.2.4	Analyze sources of food and nutrition information, including food labels, related to health and wellness.
6.3	Content Standard Demonstrate ability to acquire, handle, and use foods to meet nutrition and wellness needs of individuals and families across the life span.
	Competencies
6.3.1	Evaluate the effect of nutrition on health, wellness and performance.
6.3.2	Analyze the relationship of nutrition and wellness to individual and family health throughout the life span.
6.3.3	Analyze the effects of food and diet trends, fads, , food addictions, and eating disorders on wellness.
6.3.4	Analyze sources of food and nutrition information, including food labels, related to health and

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	wellness.
6.3.5	Apply current dietary guidelines in planning to meet nutrition and wellness needs.
6.3.6	Design strategies that address the health and nutritional recommendations for individuals and families, including those with special needs.
6.3.7	Demonstrate ability to select, store, prepare, and serve nutritious, aesthetically pleasing food and food product.
6.3.8	Evaluate policies and practices that impact food security, sustainability, food integrity, and nutrition and wellness of individuals and families.
6.4	Content Standard Evaluate factors that affect food safety from production through consumption.
	Competencies
6.4.1	Analyze conditions and practices that promote safe food handling.
6.4.2	Analyze safety and sanitation practices.
6.4.3	Analyze how changes in local, regional, national, and international food production and distribution systems influence the food supply, including sustainability, organic food production and the impact of genetically modified foods.
6.4.4	Investigate federal, state, and local inspection and labeling systems that protect the health of individuals and the public.
6.4.5	Analyze foodborne illness factors, including causes, potentially hazardous foods, and methods of prevention.
6.4.6	Analyze current consumer information about food safety and sanitation.
6.5	Content Standard Evaluate the influence of science and technology on food, nutrition and wellness.
	Competencies
6.5.1	Investigate how scientific and technical advances influence the nutrient content, availability, and safety of foods.
6.5.2	Analyze how the scientific and technical advances in food processing, storage, product development, and distribution influence nutrition and wellness.
6.5.3	Analyze the effects of technological advances on selection, preparation and home storage of food.
6.5.4	Analyze the effects of food science and technology on meeting nutritional needs.
7.0	Comprehensive Standard Evaluate management practices related to the human, economic, and environmental resources in a global context.
7.1	Content Standard Demonstrate management of individual and family resources such as food, clothing, shelter, healthcare, recreation, transportation, time, and human capital.
	Competencies
7.1.1	Apply time management, organizational, and process skills to prioritize tasks and achieve goals.
7.1.2	Analyze how individuals and families make choices to satisfy needs and wants.
7.1.3	Analyze decisions about providing safe and nutritious food for individuals and families.

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7.2	Content Standard Analyze the relationship between the global environment and family and consumer resources.
	Competencies
7.2.1	Analyze individual and family responsibility in relation to the environmental trends and issues.
7.2.2	Summarize environmental trends and issues affecting families and future generations.
7.2.3	Demonstrate behaviors that conserve, reuse, and recycle resources to maintain the environment.
7.2.4	Evaluate government regulations for conserving natural resources.
7.3	Content Standard Analyze policies that support consumer rights and responsibilities.
	Competencies
7.3.1	Analyze state and federal policies and laws providing consumer protection.
7.3.2	Analyze how policies become laws relating to consumer rights.
7.3.3	Apply skills to seek information regarding consumer rights.
7.4	Content Standard Evaluate the effects of technology on individual and family resources in a global context.
	Competencies
7.4.1	Analyze the types of technology and software programs that affect family and consumer decision-making.
7.4.2	Analyze how media trends and technological advances influence family and consumer decisions.
7.4.3	Assess the use of technology and its effect on quality of life.
7.5	Content Standard Analyze relationships between the economic system and consumer actions in a global context.
	Competencies
7.5.1	Analyze individual and family roles in the economic system.
7.5.2	Analyze economic effects of laws and regulations that pertain to consumers and providers of services.
7.6	Content Standard Demonstrate management of financial resources to meet the goals of individuals and families across the life span.
	Competencies
7.6.1	Evaluate the need for personal and family financial planning.
7.6.2	Apply financial management principles to individual and family financial practices.
7.6.3	Apply management principles and risk management strategies (including insurance) to decisions about asset protection and financial health for individuals and families.
7.6.4	Evaluate personal and legal documents related to effective management of individual and family finances.
7.6.5	Analyze the risk factors for consumers who are unbanked.
7.6.6	Evaluate banks, credit unions, payday lenders, and check cashing services within other

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	businesses where individuals and family members turn for money management and cash flow options.
7.7	Content Standard Demonstrate the ability to use knowledge and skills to manage one's financial resources effectively for a lifetime of financial security.
	Competencies
7.7.1	Demonstrate management of individual and family finances by applying reliable information and systematic decision-making.
7.7.2	Analyze how education, income, career, and life choices relate to achieving financial goals.
7.7.3	Analyze financial goals, budgets, and expense tracking to understand effective money management strategies.
7.7.4	Manage credit and debt to remain both creditworthy and financially secure.
7.7.5	Analyze the features of insurance, its role in balancing risk and benefits in financial planning.
7.7.6	Analyze saving and investing to build financial security and wealth.
7.7.7	Analyze the difference between net and gross pay, the impact of taxes, and the added financial benefits an employer may provide.
7.8	Content Standard Analyze factors, including cultural, political, and geographical influences, that affect consumer advocacy.
7.8.1	Demonstrate strategies that enable consumers to become advocates.
7.8.2	Analyze the effects of consumer protection laws on advocacy.
7.8.3	Apply strategies to reduce the risk of consumer fraud and identity theft.
7.8.4	Analyze the role of media in consumer advocacy and consumer fraud.
7.8.5	Examine the effects of government, business, and industry regulations, policies, and procedures on advocacy.
8.0	Comprehensive Standard Evaluate product development testing and presentation processes
8.1	Content Standard Demonstrate skills needed for product development, testing, and presentation
8.1.1	Conduct market research to determine consumer trends and product development needs for diverse populations.
8.1.2	Design or analyze a consumer product.
8.1.3	Analyze features, prices, product information, styles, and performance of consumer goods for potential global impact and trade-offs among the components.
8.1.4	Evaluate a product utilizing valid and reliable testing procedures.
8.1.5	Apply statistical analysis processes to interpret, summarize, and report data from tests.
8.1.6	Evaluate the labeling, packaging, and support materials of consumer goods.
8.1.7	Demonstrate a plan to educate an audience about a new product on the consumer market.
8.1.8	Utilize appropriate marketing and sales techniques to aid consumers in the selection of goods and services that meet consumer needs.
9.0	Comprehensive Standard Evaluate safety and sanitation processes
9.1	Content Standard

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	Demonstrate sanitation procedures for a clean and safe environment.
	Competencies
9.1.2	Analyze the various types of cleaning methods and their environmental effects.
9.1.3	Summarize federal and state regulations regarding safe handling, usage, and storage of chemicals.
9.1.4	Apply Occupational Safety and Health Administration (OSHA) regulations to safety procedures for bloodborne pathogens present in blood and body fluids.
9.1.5	Select a pest control system appropriate for the facility and the type(s) of pests likely to be present.
9.1.6	Utilize Centers for Disease Control (CDC) standards.
9.1.7	Integrate Americans with Disabilities Act (ADA) regulations.
9.2	Content Standard Apply hazardous materials and waste management procedures.
	Competencies
9.2.1	Investigate local, federal, and state regulations and geographic and cultural influences regarding waste management.
9.2.2	Demonstrate a waste minimization plan.
9.2.3	Practice a recycling program for conservation of resources.
9.2.4	Record presence of hazardous materials and occurrence of hazardous situations accurately and communicate to appropriate authorities.
9.2.5	Describe procedures for safely handling and storing hazardous materials and waste products.
9.2.6	Design energy efficient methods for waste management in diverse settings.
9.2.7	Investigate safe storage and disposal of pesticides.
9.3	Content Standard Demonstrate a work environment that provides safety and security.
	Competencies
9.3.1	Design procedures for external and internal emergencies.
9.3.2	Apply security procedures.
9.3.3	Demonstrate safe procedures in the use, care, and storage of equipment.
9.3.4	Apply safety and security procedures as required by Hazard Analysis and Critical Control Point (HACCP), Occupational Safety and Health Administrations (OSHA), and other agencies.
9.3.5	Apply procedures for control of infection and infectious materials.

Human and Family Services	
10.0	Comprehensive Standard Synthesize knowledge, skills, and practices required for careers in family & human services.
10.1	Content Standard Analyze factors in providing family and human services.
	Competencies
10.1.1	Describe local, state, and national agencies and informal support resources providing human services.
10.1.2	Analyze professional, ethical, legal, and safety issues for human services employees.
10.1.3	Evaluate licensing laws and regulations that affect service providers and their participants.
10.1.4	Analyze harmful, fraudulent, unethical, and deceptive human services practices.
10.1.5	Summarize the rights and responsibilities of human service participants and their families.
10.1.6	Analyze effective self-advocacy strategies for human services professionals.
10.1.7	Investigate community-networking opportunities in family and human services.
10.2	Content Standard Demonstrate professional behaviors, skills, and knowledge in providing family and human services.
	Competencies
10.2.1	Evaluate rules, regulations, legal and work site policies that affect employer, employee, personal, and family rights and responsibilities.
10.2.2	Demonstrate professional and ethical behavior with peers in a variety of settings.
10.2.3	Analyze procedures for maintaining accurate, secure, and confidential documentation and submission practices.
10.2.4	Perform formal and informal assessment practices that evaluate participants' strengths, needs, preferences, and interests across the life span.
10.2.5	Demonstrate use of current and evolving technology in human services.
10.3	Content Standard Analyze the impact of conditions that could influence the well-being of individuals and families.
	Competencies
10.3.1	Investigate health, wellness, financial and safety issues of individual and families with a variety of conditions that could influence their well-being.
10.3.2	Analyze the use of resources in making choices that satisfy needs and wants of individuals, families, and communities.
10.3.3	Analyze management and living environment issues of individuals and family conditions that influence their well-being.
10.3.4	Analyze personal, social, emotional, economic, vocational, educational, and recreational issues of individuals and family conditions that influence their well-being.
10.3.5	Differentiate between situations that require personal prevention or intervention and those situations that require professional assistance.

Human and Family Services	
10.3.6	Analyze situations which require crisis intervention.
10.3.7	Summarize the appropriate support needed to address selected human services issues.
10.3.8	Summarize information about procuring and maintaining health care and health insurance to meet the needs of individuals and family members.
10.4	Content Standard Evaluate services for individuals and families with a variety of conditions that could impact their well-being.
	Competencies
10.4.1	Describe needs and accommodations for people with a variety of conditions that could affect their well-being.
10.4.2	Apply consumer skills to acquire and maintain transportation that meets the needs of individuals and family members.
10.4.3	Analyze ways in which individuals with conditions that affect their well-being impact the family and family members financially, socially, physically, and emotionally over the lifespan.
10.4.4	Analyze practices that allow families to maintain economic self-sufficiency.
10.4.5	Illustrate coping or adjustment strategies and stress management practices for the participant, a caregiver, and family members.
10.4.6	Summarize the impact of friends, family, and community relationships for individuals with a variety of conditions that affect their well-being.
10.4.7	Demonstrate ways to provide support that validates the participants' capabilities and right to privacy, dignity, and autonomy.
10.4.8	Identify strategies that help participants make informed choices, access resources and support, follow through on responsibilities, and take appropriate risks.
10.4.9	Demonstrate effective verbal and nonverbal communication skills that support individuals and families with a variety of conditions that could affect their well-being.

Hospitality, Food Production, and Nutrition Services	
11.0	Comprehensive Standard Integrate knowledge, skills, and practices required for careers in food production and services, hospitality, and nutrition services.
11.1	Content Standard Demonstrate food safety and sanitation procedures.
	Competencies
11.1.1	Identify characteristics of major foodborne pathogens, their role in causing illness, foods involved in outbreaks, and methods of prevention.
11.1.2	Employ food service management safety/sanitation program procedures, including CPR and first aid.
11.1.3	Use knowledge of systems for documenting, investigating, reporting, and preventing foodborne illness.
11.1.4	Use the Hazard Analysis Critical Control Point (HACCP) and crisis management principles and procedures during food handling processes to minimize the risks of foodborne illness.
11.1.5	Practice standard personal hygiene and wellness procedures.
11.1.6	Demonstrate proper purchasing, receiving, storage, and handling of both raw and prepared foods.
11.1.7	Demonstrate safe food handling and preparation techniques that prevent cross contamination from potentially hazardous foods and food groups.
11.1.8	Analyze current types of cleaning and sanitizing materials for proper use.
11.1.9	Use the Occupational Safety and Health Administration (OSHA) Right to Know Law and Materials Safety Data Sheets (MSDS) and explain their requirements in safe handling and storage of hazardous materials.
11.1.10	Demonstrate safe and environmentally responsible waste disposal and recycling methods.
11.1.11	Demonstrate ability to maintain necessary records to document time and temperature control, HACCP, employee health, maintenance of equipment, and other elements of food preparation, storage, and presentation.
11.2	Content Standard Demonstrate industry standards in selecting, using, and maintaining food production and food service equipment.
	Competencies
11.2.1	Operate tools and equipment following safety procedures and OSHA requirements.
11.2.2	Maintain tools and equipment following safety procedures and OSHA requirements.
11.2.3	Demonstrate procedures for cleaning and sanitizing equipment, serving dishes, glassware, and utensils to meet industry standards and OSHA requirements.
11.2.4	Analyze equipment purchases based on long-term business needs, specific regulations, and codes related to foods.
11.2.5	Demonstrate procedures for safe and secure storage of equipment and tools.

Hospitality, Food Production, and Nutrition Services	
11.2.6	Identify a variety of types of equipment for food processing, cooking, holding, storing, and serving.
11.3	Content Standard Evaluate nutrition principles, food plans, preparation techniques and specialized dietary plans.
	Competencies
11.3.1	Analyze nutrient requirements across the life span addressing the diversity of people, culture, and religions.
11.3.2	Analyze nutritional data.
11.3.3	Apply principles of food production to maximize nutrient retention in menus.
11.3.4	Assess the influence of cultural, socioeconomic and psychological factors on food and nutrition and behavior.
11.3.5	Analyze recipe/formula proportions, ingredients, and modifications for food production.
11.3.6	Critique the selection of foods and ingredients to promote a healthy lifestyle.
11.3.7	Plan menus, applying the exchange system to meet various nutrient needs.
11.4	Content Standard Demonstrate menu planning principles and techniques based on standardized recipes to meet customer needs.
	Competencies
11.4.1	Use computer-based menu systems to develop and modify menus.
11.4.2	Apply menu-planning principles to develop and modify menus.
11.4.3	Analyze food, equipment, and supplies needed for menu production.
11.4.4	Develop a variety of menu layouts, themes, and design styles.
11.4.5	Prepare requisitions for food, equipment, and supplies to meet production requirements.
11.4.6	Record performance of menu items to analyze sales and determine menu revisions.
11.4.7	Apply principles of measurement, portion control, conversions, food cost analysis and control, menu terminology, and menu pricing to menu planning.
11.5	Content Standard Demonstrate professional food preparation methods and techniques for all menu categories to produce a variety of food products that meet customer needs.
	Competencies
11.5.1	Demonstrate professional skills in safe handling of knives, tools, and equipment.
11.5.2	Demonstrate professional skill for a variety of cooking methods including roasting, broiling, smoking, grilling, sautéing, pan frying, deep frying, braising, stewing, poaching, steaming, and baking using professional equipment and current technologies.
11.5.3	Demonstrate knowledge of portion control and proper scaling and measurement techniques.

Hospitality, Food Production, and Nutrition Services	
11.5.4	Apply the fundamentals of time, temperature, and cooking methods to cooking, cooling, reheating, and holding of a variety of foods.
11.5.5	Prepare various meats, seafood, and poultry using safe handling and professional preparation techniques.
11.5.6	Prepare various stocks, soups, and sauces using safe handling and professional preparation techniques.
11.5.7	Prepare various fruits, vegetables, starches, legumes, dairy products, fats, and oils using safe handling and professional preparation techniques.
11.5.8	Prepare various salads, dressings, marinades, and spices using safe handling and professional preparation techniques.
11.5.9	Prepare sandwiches, canapes and appetizers using safe handling and professional preparation techniques.
11.5.10	Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.
11.5.11	Prepare breakfast meats, eggs, cereals, and batter products using safe handling and professional preparation techniques.
11.5.12	Demonstrate professional plating, garnishing, and food presentation techniques.
11.5.13	Integrate sustainability in food production and services including menu planning; acquisition, preparation, and serving of food; storage; and recycling and waste management.
11.5.14	Demonstrate cooking methods that increase nutritional value, lower calorie and fat content, and utilize herbs and spices to enhance flavor.
11.6	Content Standard Demonstrate implementation of food service management and leadership functions.
	Competencies
11.6.1	Apply principles of purchasing, receiving, and storing in food service operations.
11.6.2	Practice inventory procedures including first in/first out concept, date marking, and specific record-keeping.
11.6.3	Apply accounting procedures in planning and forecasting profit and loss.
11.6.4	Examine the areas of risk management and legal liability within the food service industry.
11.6.5	Apply human resource policies including rules, regulations, laws, hiring, compensation, overtime, discrimination, and harassment.
11.6.6	Apply the procedures involved in staff planning, recruiting, interviewing, selecting, scheduling, performance reviewing, and terminating of employees.
11.6.7	Conduct staff orientation, initial training and education, consistent reinforcement of training principles, and on the job training/retraining.
11.6.8	Implement marketing plans for food service operations.
11.6.9	Design internal/external crisis management and disaster plans and response procedures.
11.6.10	Apply principles of inventory management, labor cost and control techniques, production planning and control, sustainability, and facilities management to

Hospitality, Food Production, and Nutrition Services	
	planning and front and back of the house operations.
11.7	Content Standard Demonstrate the concept of internal and external customer service.
	Competencies
11.7.1	Analyze the role of quality service as a strategic component of exceptional performance.
11.7.2	Demonstrate quality service techniques and procedures that meet industry standards in the food service industry.
11.7.3	Analyze the relationship between employee attitude and skills and customer satisfaction.
11.7.4	Apply procedures for addressing and resolving complaints.
11.7.5	Demonstrate sensitivity to diversity and special needs.
11.8	Content Standard Apply basic concepts of nutrition and nutrition therapy in a variety of settings, considering social, geographical, cultural, and global influences.
	Competencies
11.8.1	Analyze nutritional needs of individuals.
11.8.2	Use nutritional information to support care planning.
11.8.3	Determine when to provide a selective menu approach in nutrition therapy settings.
11.8.4	Construct a modified diet based on nutritional needs and health conditions.
11.8.5	Design instruction on nutrition to promote wellness and disease prevention.
11.9	Content Standard Demonstrate use of science and technology advancements in food product development and marketing.
	Competencies
11.9.1	Analyze various factors that affect food preferences in the marketing of food to a variety of populations.
11.9.2	Analyze data in statistical analysis when making development and marketing decisions.
11.9.3	Prepare food for presentation and assessment.
11.9.4	Maintain test kitchen/ laboratory and related equipment and supplies.
11.9.5	Implement procedures that affect quality product performance and sustainability.
11.9.6	Conduct sensory evaluations of food products.
11.9.7	Conduct testing for safety of food products, utilizing available technology.
11.10	Content Standard Demonstrate food science, dietetics, and nutrition management principles and practices.
	Competencies
11.10.1	Build menus to customer/ client preferences.

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Hospitality, Food Production, and Nutrition Services	
11.10.2	Implement food preparation, production, and testing systems.
11.10.3	Apply standards for food quality and sustainability.
11.10.4	Create standardized recipes.
11.10.5	Manage food production to meet needs and preferences of diverse customer populations.
11.10.6	Analyze new products utilizing most current guidelines and innovations in technology.
11.10.7	Implement procedures that provide cost effective products.
11.10.8	Establish par levels for the purchase of supplies based on an organization's needs.
11.10.9	Utilize Food Code Points of time, temperature, date markings, cross contamination, hand washing, and personal hygiene as criteria for safe food preparation.
11.11	Content Standard Demonstrate principles of food biology and chemistry.
	Competencies
11.11.1	Explain the properties of elements, compounds, and mixtures in foods and food products.
11.11.2	Analyze the effects of thermodynamics on chemical reactions in foods and food products.
11.11.3	Explain the process of ionization in the formation of acids and bases and effect on food and food products.
11.11.4	Explain the impact of molecular structure of simple and complex carbohydrates on digestion, nutrition, and food preparation procedures.
11.11.5	Relate the composition of lipids and proteins to their functions in foods and their impact on food preparation and nutrition.
11.11.6	Explain the value of molds and enzymes in food products.
11.11.7	Analyze the impact of food presentation methods and techniques on nutrient value, safety and sanitation, and consumer appeal of food and products.
11.12	Content Standard Demonstrate procedures applied to safety, security, and environmental issues.
	Competencies
11.12.1	Explain the importance of safety, security, and environmental issues related to the hospitality, tourism, and recreation industries.
11.12.2	Demonstrate procedures for assuring guest or customer safety.
11.12.3	Evaluate evacuation plans and emergency procedures.
11.12.4	Demonstrate management and conservation of resources for energy efficiency and protection of the environment.
11.12.5	Design a system for documenting, investigating, and taking action on safety, security, and environmental issues.
11.13	Content Standard Apply concepts of quality service to ensure customer satisfaction.
	Competencies

Hospitality, Food Production, and Nutrition Services	
11.13.1	Apply industry standards for service that meets cultural and geographic expectations of guests or customers.
11.13.2	Analyze how employee dispositions can impact customer satisfaction.
11.13.3	Apply a system to evaluate and resolve employee, employer, guest, or customer complaints.
11.13.3	Analyze effects of customer relations on success of the hospitality, tourism, and or recreation industry.
11.13.4	Demonstrate effective cultural awareness and customer relations to meet the hospitality, tourism, and recreation needs of special populations.
11.14	Content Standard Demonstrate practices and skills involved in hospitality and lodging occupations.
	Competencies
11.14.1	Demonstrate front desk, office, and customer service skills.
11.14.2	Demonstrate accounting practices and financial transactions.
11.14.3	Manage convention, meeting, and banquet support functions.
11.14.4	Apply basic food preparation and service skills in catering operations.
11.14.5	Manage use, care, storage, maintenance, and safe operations of equipment, tools, and supplies.
11.14.6	Apply facility management, maintenance, and service skills to hospitality and lodging operations.
11.14.7	Apply time and work management skills to facility service tasks.
11.14.8	Analyze sales and marketing functions in hospitality and lodging operations.
11.15	Content Standard Demonstrate practices and skills for travel related services.
	Competencies
11.15.1	Investigate geography, climate, sites, time zones, and political and global influences of various regions and countries.
11.15.2	Investigate hospitality, lodging, tourism, and recreation customs of various regions and countries.
11.15.3	Apply knowledge of food, beverage, and etiquette of various regions and countries to decisions about hospitality, lodging, tourism, and recreation.
11.15.4	Research regulations and cultural expectations to determine information needed for diverse clientele for domestic and international travel.
11.15.5	Create travel documents and itineraries, utilizing current technology.
11.15.6	Analyze travel arrangements using computerized systems.
11.16	Content Standard Demonstrate management of recreation, leisure, and other programs and events.
	Competencies
11.16.1	Coordinate client inquiries and requests.
11.16.2	Design themes, timelines, budgets, agendas, and itineraries for specific programs and



State Standards – Iowa, 2019
Human Services/Family and Consumer Sciences

Hospitality, Food Production, and Nutrition Services	
	events.
11.16.3	Organize resources and information about locations, facilities, suppliers, and vendors for specific services.
11.16.4	Prepare event materials for distribution.
11.16.5	Demonstrate skills related to promoting and publicizing events.
11.16.6	Manage programs and events for specific age groups or diverse populations.
11.16.7	Promote wellness initiatives through recreation and leisure programs and events.
11.16.8	Evaluate overall effectiveness of specific events.
11.16.9	Describe tourism related organizations and agencies and their impact on hospitality, lodging, travel, and recreation operations.

Housing, Fashion, and Design	
12.0	Comprehensive Standard Integrate knowledge, skills, and practices required for careers in housing and interior design, fashion and apparel design, and textiles.
12.1	Content Standard Analyze the value of interior, fashion, and apparel design to individuals, families, and society including the financial benefits and the impact of housing, interior design, and apparel careers on individual/family, local, state, national, and global economies.
	Competencies
12.1.1	Analyze the effects of textiles, fashion, and apparel industries on local, state, national, and global economies.
12.1.2	Apply consumer skills to decisions about housing, utilities, and furnishings.
12.2	Content Standard Evaluate housing and design concepts and theories, including sustainability and universal design, in relation to available resources and options.
	Competencies
12.2.1	Evaluate the use of elements and principles of design in housing and commercial and residential interiors.
12.2.2	Analyze the psychological impact that the principles and elements of design have on the individual.
12.2.3	Analyze the effects that the principles and elements of design have on aesthetics and function.
12.2.4	Apply principles of human behavior, ergonomics, and anthropometrics to the design of housing, interiors, and furnishings.
12.3	Content Standard Analyze the effects of textiles, fashion, and apparel industries on local, state, national, and global economies.
	Competencies
12.3.1	Apply appropriate terminology for identifying, comparing, and analyzing the most common generic textile fibers and fabrics.
12.3.2	Evaluate performance characteristics of textile fiber and fabrics.
12.3.3	Analyze textile legislation, standards, and labeling in the global economy.
12.3.4	Analyze characteristics of textile components in the design, construction, care, use, maintenance, and disposal or recycling of products.
12.3.5	Demonstrate appropriate procedures for care and disposal or recycling of textile products, considering diverse needs locally and globally.
12.3.6	Evaluate fibers and fabrics for sustainability factors.
12.3.7	Evaluate quality of textiles, fashion, and apparel construction and fit.
12.4	Content Standard Apply residential and commercial interior design knowledge, skills and processes to meet specific design needs.
	Competencies
12.4.1	Analyze product information, including but not limited to floor coverings, wall coverings, textiles, window treatments, furniture, lighting fixtures, kitchen and bath fixtures and

Housing, Fashion, and Design	
	equipment.
12.4.2	Evaluate manufacturers, products, and materials considering building codes and regulations, environmental protection, care and maintenance, and safety issues.
12.4.3	Demonstrate measuring, estimating, ordering, purchasing, pricing, and repurposing skills.
12.4.4	Appraise various interior furnishings, finishes, fixtures, appliances, and equipment to provide cost and quality choices for clients.
12.4.5	Examine the impact of housing, interiors, and furnishings on the health, safety, and welfare of the public.
12.4.6	Demonstrate design processes such as determining the scope of the project, programming, research, concept development, schematic design, design drawing, and design development and presentation.
12.5	Content Standard Demonstrate textiles, fashion, and apparel design skills.
	Competencies
12.5.1	Explain the ways in which fiber, fabric, texture, pattern, and finish can affect visual appearance.
12.5.2	Apply basic and complex color schemes and color theory to develop and enhance visual effects.
12.5.3	Utilize elements and principles of design in designing, constructing, and/or altering textiles, fashion, and apparel.
12.5.4	Demonstrate design concepts using fiber, fabric or digital means, employing draping and/or flat pattern making techniques.
12.5.5	Generate design that demonstrates consideration for ecological, environmental, ethnic, sociological, psychological, technical, and economic trends and issues.
12.5.6	Apply elements and principles of design to assist consumers and businesses in making decisions.
12.5.7	Demonstrate ability to use technology for fashion, apparel, and textile design.
12.5.8	Evaluate the impact of history of design and designers, arts and culture, trend setters, and global influences on textiles, fashion, and apparel.
12.6	Content Standard Demonstrate skills needed to produce, alter, or repair textiles, fashion, and apparel.
	Competencies
12.6.1	Demonstrate professional skills in using traditional and technologically innovative equipment, tools, and supplies in textiles, fashion, and apparel construction, alteration, repair, and recycling.
12.6.2	Explain production processes for creating fibers, yarns, woven and knit fabrics, and non-woven textile products.
12.6.3	Use appropriate industry products and materials for cleaning, pressing, and finishing textiles, fashion, and apparel.
12.6.4	Analyze current technology, trends, and innovations that facilitate design and production of textiles, fashion, and apparel.
12.6.5	Demonstrate basic skills for production, alteration, repair and recycling of textiles, fashion, and apparel.
12.7	Content Standard

Housing, Fashion, and Design	
	Apply consumer skills to providing and maintaining clothing.
	Competencies
12.7.1	Demonstrate laundering processes aligned with industry standards and regulations.
12.7.2	Summarize the functions of machines and equipment used in laundering operations.
12.7.3	Demonstrate standard laundry procedures.
12.7.4	Apply procedures for the selection of textiles, chemicals, and equipment in the laundering process.
12.7.5	Apply industry regulations to maintaining quality in laundry/linen systems.
12.8	Content Standard Evaluate client's needs, goals, and resources in creating design plans for housing and residential and commercial interiors.
	Competencies
12.8.1	Competencies
12.8.2	Assess financial resources needed to improve interior space.
12.8.3	Apply consumer skills to decisions about housing, utilities, and furnishings.
12.8.4	Assess client's community, family, and financial resources needed to achieve housing and interior design goals.
12.8.5	Assess a variety of available resources for housing and interior design, such as evidence-based design that accounts for human factors and issues of human behavior.
12.8.6	Critique design plans to address client's needs, goals and resources.
12.8.7	Justify design solutions relative to client needs, including diversity and cultural needs, and the design process.
12.9	Content Standard Apply design knowledge, skills, processes, and theories and oral, written, and visual presentation skills to communicate design ideas.
	Competencies
12.9.1	Select appropriate studio tools.
12.9.2	Prepare sketches, elevations, perspectives, and renderings using appropriate media.
12.9.3	Prepare visual presentations including legends, keys, and schedules.
12.9.4	Utilize a variety of presentation media including drawings, photography, video, computer, and software for client presentations.
12.9.5	Utilize applicable building codes and universal design regulations and guidelines in space planning.
12.9.6	Create floor plans using architectural drafting skills and computer aided design software.
12.10	Content Standard Evaluate elements of textiles, fashion, and apparel merchandising.
	Competencies
12.10.1	Apply marketing strategies for textiles, fashion, and apparel in the global marketplace.
12.10.2	Analyze the cost of constructing, manufacturing, distributing, altering, repairing or recycling textiles, fashion, and apparel.
12.10.3	Analyze ethical considerations for merchandising textiles, fashion, and apparel.
12.10.4	Analyze external factors that influence merchandising.
12.10.5	Critique a variety of methods for promoting textiles, fashion and apparel to diverse populations.

Housing, Fashion, and Design	
12.10.6	Apply research methods, including forecasting techniques, for marketing textiles, fashion, and apparel.
12.11	Content Standard Analyze professional practices and procedures for business profitability and career success, and the role of ethics in the housing, interiors and furnishings industries.
	Competencies
12.11.1	Examine legislation, regulations, and public policy that affect residential and commercial interior design as well as the housing and furnishings industries.
12.11.2	Analyze personal and employer responsibilities and liabilities regarding industry related safety, security, and environmental factors.
12.11.3	Describe security and inventory control strategies, laws and regulations, and worksite policies and procedures that affect loss prevention and profit.
12.11.4	Demonstrate procedures for reporting and handling accidents, safety, and security incidents.
12.11.5	Apply procedures for maintaining inventory control and loss prevention, including cash and credit transactions.
12.11.6	Analyze operational costs such as mark ups, mark downs, raw materials, cash flow, and other factors affecting profit.
12.11.7	Demonstrate knowledge of the arts, of various resources, and of cultural impact upon design industries.
12.11.8	Demonstrate knowledge of multi-disciplinary collaboration and consensus building skills needed in practice.
12.12	Content Standard Develop a global view to weigh design decisions with the parameters of sustainability and socioeconomic and cultural contexts within the housing, interior design, fashion, and furnishing industries.
	Competencies
12.12.1	Demonstrate knowledge and skills to incorporate recycle and redesign principles.
12.12.2	Content Standard Evaluate the components of customer service.
	Competencies
12.12.3	Analyze factors that contribute to quality customer relations.
12.12.4	Analyze the influences of cultural expectations as a factor in customer relations.
12.12.5	Demonstrate the skills necessary for quality customer service.
12.12.6	Create solutions to address customer concerns.
12.12.7	Content Standard Demonstrate planning, organizing, and maintaining an efficient operation of residential or commercial facilities.
	Competencies
12.12.8	Apply environmental services standards and procedures in residential and commercial settings.
12.13.1	Operate cleaning equipment and tools.
12.13.2	Manage use of supplies.
12.13.3	

Housing, Fashion, and Design	
12.13.4	Maintain building interior surfaces, wall coverings, fabrics, furnishings, and floor surfaces.
12.13.5	Perform facilities maintenance based on established standards and procedures.
12.13.6	Analyze energy efficient methods and practices in a variety of geographic and cultural settings.
12.14	Content Standard: Demonstrate facilities management functions.
	Competencies
12.14.1	Demonstrate quality customer service which exceeds customer expectations in diverse settings.
12.14.2	Demonstrate the elements involved in staff planning, recruiting, interviewing, selecting, hiring, and terminating of employees.
12.14.3	Design staff schedules that meet industry needs and consider individual diversity.
12.14.4	Conduct orientation, regular training and education, and on the job training/retraining, considering employee diversity.
12.14.5	Demonstrate techniques and strategies to evaluate employee effectiveness.
12.14.6	Apply principles of purchasing and receiving in facility management operations.
12.14.7	Implement procedures to control inventory.
12.14.8	Apply accounting principles in planning, forecasting, and recording profit and loss.
12.14.9	Develop a marketing plan for a business or department.

Education and Training	
13.0	Comprehensive Standard Integrate knowledge, skills, and practices required for careers in early childhood, education, and services.
13.1	Content Standard Analyze developmentally appropriate and culturally responsive practices to plan for early childhood, education, and services.
	Competencies
13.1.1	Analyze child development theories and their implications for educational and childcare practices.
13.1.2	Analyze child development theories and their implications for educational and childcare practices.
13.1.3	Explore assessment tools and methods to observe and interpret children's growth and development and apply to assess growth and development across the lifespan.
13.1.4	Analyze cultural and environmental influences when assessing development of children, youth and adults.
13.1.5	Address specific developmental needs of children, youth and adults based on assessment of their abilities.
13.1.6	Analyze strategies that promote growth and development of children, youth and adults.
13.2	Content Standard Demonstrate integration of curriculum and instruction to meet developmental needs and interests of children, youth and adults, considering gender, ethnicity, geographical, cultural, and global influences.
	Competencies
13.2.1	Analyze a variety of curriculum and instructional models.
13.2.2	Implement learning activities in all curriculum areas that meet the developmental needs of learners.
13.2.3	Implement an integrated curriculum that incorporates a learner's language, learning styles, early experiences, and cultural values.
13.2.4	Demonstrate a variety of teaching methods to meet individual needs of learners.
13.2.5	Arrange the classroom environment to provide for learners' exploration, discovery, development, and reflection through multiple methods including learning centers.
13.2.6	Establish effective activities, routines, and transitions for various age groups.
13.3	Content Standard Demonstrate a safe and healthy learning environment for children, youth and adults.
	Competencies
13.3.1	Manage physical space to maintain a learning environment that is safe and healthy and encourages physical activity.
13.3.2	Apply safe and healthy practices that comply with local, state, and federal regulations to assure learners' safety.
13.3.3	Implement strategies to teach health, safety, and sanitation habits.
13.3.4	Plan safe and healthy meals and snacks that meet USDA standards.
13.3.5	Document symptoms of abuse and neglect and use appropriate procedures to report suspected abuse or neglect to the designated authorities.
13.3.6	Implement basic health practices and prevention procedures for workers and learners regarding illness, communicable diseases, accidents and trauma.

Education and Training	
13.3.7	Demonstrate security and emergency procedures.
13.4	Content Standard: Demonstrate skills for building and maintaining positive collaborative relationships with children, youth and adults in their family and community environments, considering gender, ethnicity, geographical, cultural, and global influences.
13.4.1	Competencies
13.4.2	Apply developmentally appropriate and culturally responsive guidelines for behavior.
13.4.3	Demonstrate problem-solving and decision-making skills when working with children, youth and adults.
13.4.4	Demonstrate interpersonal skills that promote positive and productive relationships with learners.
13.4.5	Implement strategies for constructive and supportive interactions between children, youth and adults and their families and communities.
13.4.6	Analyze learners' developmental progress and summarize developmental issues and concerns.
13.5	Content Standard: Demonstrate professional practices and standards related to working with children, youth and adults, including diverse populations.
	Competencies
13.5.1	Explore opportunities for continuing training and education.
13.5.2	Apply professional ethical standards as accepted by the recognized professional organizations.
13.5.3	Implement federal, state, and local standards, policies, regulations, and laws that affect programs for children, youth and adults and their families.
13.5.4	Demonstrate enthusiasm, initiative, and commitment to program goals and improvements.
13.5.5	Examine entrepreneurial aptitude, management skills, and financial resources needed for planning businesses in early childhood, education, and services.
13.5.6	Identify ways educators can advocate to influence policies, agencies, and institutions for the benefit of children, youth and adults and their families.

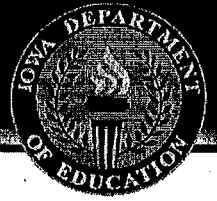
For additional information: <http://www.nasafacs.org/national-standards-and-competencies.html>

AGRICULTURE STANDARDS

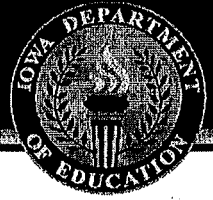
1. Students will learn about the operations and economic impact of agricultural business in a world economy.
2. Students will develop a broad understanding of basic agriculture knowledge and skills, career opportunities, and understand the connection/relationship between agriculture and society.
3. Students will demonstrate an understanding of the scientific principles involved in the production and processing of food, fiber, and the horticulture industry.
4. Students will demonstrate the ability to access information, synthesize, and use information for the technological improvement of the food, fiber, and natural resources enterprises.
5. Students will demonstrate an understanding of basic mechanical processes and the safety rules involved with them.

Industrial Technology (General Course) Standards

1. Students will examine how engineering and technology helps improve, manage, and control natural and engineered environments.
2. Students will investigate the evolution of engineering, technology, and trade and industry on products, structures, and systems.
3. Students apply safety practices in the lab and on worksites.
4. Students apply and adapt appropriate workplace behaviors and characteristics to prepare for careers.



**Iowa Career and Technical Education
Applied Sciences, Technology, Engineering and
Manufacturing Standards**



Industrial Technology (General Course)

1. Students will examine how engineering and technology helps improve, manage, and control natural and engineered environments.

- 1.1 Illustrate the purpose and impact of engineering and technology on society and the environment.
- 1.2 Apply the universal systems model when studying areas of applied sciences, technology engineering, and manufacturing.

2. Students will investigate the evolution of engineering, technology, and trade and industry on products, structures, and systems.

- 2.1 Analyze technological advancements throughout time periods in history.
- 2.2 Investigate inventions and innovations of products, processes, materials, and tools.
- 2.3 Evaluate how technology inventions and innovations have impacted (positive/negative) the society and the environment.

3. Students apply safety practices in the lab and on worksites.

- 3.1 Demonstrate safe practices and procedures with tools and equipment.
- 3.2 Demonstrate appropriate use of personal protective equipment
- 3.3 Document safety concerns according to local policies and procedures
- 3.4 Analyze hazardous materials procedures and OSHA.

4. Students apply and adapt appropriate workplace behaviors and characteristics to prepare for careers.

- 4.1 Demonstrate effective interpersonal, leadership and communication skills
- 4.2 Analyze education and skill requirements for engineering and technology and related professions.
- 4.3 Report the outlook, demand, and projected wages for engineering, technology, ASTEM, and trade and industry careers.
- 4.4 Research, analyze, and use data for work assignments
- 4.5 Exhibit a responsible work ethic
- 4.6 Demonstrate accepted standards for ethical behavior
- 4.7 Establish a personal career goal and develop objectives for achieving the goal
- 4.8 Create a continuing education plan that identifies further education and training options
- 4.9 Prepare for exams leading to certifications recognized by business and industry
- 4.10 Evaluate resources that keep workers current in the career field



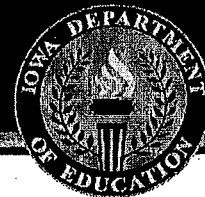
Automotive Technology

1. Students understand the value and necessity of practicing personal and occupational safety and protecting the environment by using materials and processes in accordance with manufacturer and industry standards.

- 1.1 Know and understand common environmental conservation practices and their applications.
- 1.2 Practice the safe handling and storage of chemicals and hazardous wastes in accordance with material safety data sheets and the requirements of local, state, and federal regulatory agencies.
- 1.3 Understand the way in which waste gasses, emissions, and other environmentally destructive substances are generated and their effects on the environment.
- 1.4 Evaluate the advantages and disadvantages of existing, new, and emerging systems and the effects of those systems on the environment.
- 1.5 Use appropriate personal protective equipment and safety practices.

2. Students understand the safe and appropriate use of tools, equipment, and work processes.

- 2.1 Understand and use appropriate tools and equipment, such as wrenches, sockets, and pliers, to maintain and repair systems and components.
- 2.2 Use tools, equipment, and machines to safely measure, test, diagnose, and analyze components and systems (e.g., electrical and electronic circuits, alternating and direct-current applications, fluid/hydraulic and air/pneumatic systems).
- 2.3 Select and use the appropriate measurement device(s) and use mathematical functions necessary to perform required fabrication, maintenance, and operation procedures.
- 2.4 Know and understand the elements of precision measuring using standard and metric systems.
- 2.5 Use measurement scales, devices, and systems, such as dial indicators, and micrometers to design, fabricate, diagnose, maintain, and repair vehicles and components following appropriate industry standards.
- 2.6 Know and understand how to access technical reports, manuals, electronic retrieval systems, and related technical data resources.
- 2.7 Comprehend the importance of calibration processes, systems, and techniques using various measurement and testing devices.



3. Students understand scientific principles in relation to chemical, mechanical, and physical functions for various engine and vehicle systems.

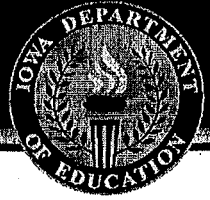
- 3.1 Understand the operating principles of internal and external combustion engines.
- 3.2 Understand the function and principles of air conditioning and heating systems.
- 3.3 Understand the basic principles of pneumatic and hydraulic power and their applications.
- 3.4 Understand the applications of alternative power sources.
- 3.5 Understand the principles of converting energy from one form to another.
- 3.6 Perform necessary procedures to maintain, diagnose, service, and repair vehicle systems and malfunctions.

4. Students perform and document maintenance procedures in accordance with the recommendations of the manufacturer.

- 4.1 Understand the procedures and practices of various manufacturers regarding repair and maintenance schedules.
- 4.2 Know how to properly document maintenance procedures in accordance with applicable rules, laws, and regulations
- 4.3 Use reference books, technical service bulletins, and other documents and materials related to the automotive service industry available in print and through electronic retrieval systems to accurately diagnose and repair vehicles.
- 4.4 Complete a work order, including customer information, description of repairs, and billing information, in accordance with applicable rules, laws, and regulations.

5. Students understand the application, operation, maintenance, and diagnosis of engines, including but not limited to two- and four-stroke and supporting subsystems.

- 5.1 Perform general engine maintenance, diagnosis, service, and repair in accordance with national industry standards.
- 5.2 Maintain, diagnose, service, and repair ICE engine systems.
- 5.3 Understand how to maintain, diagnose, and repair computerized engine control systems and other engine-related systems.
- 5.4 Maintain, diagnose, service, and repair ignition, electronic, and computerized engine controls and fuel management systems.

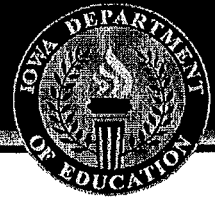


6. Students understand the function, principles, and operation of electrical and electronic systems using manufacturer and industry standards.

- 6.1 Understand how to maintain, diagnose, and repair electrical systems.
- 6.2 Maintain, diagnose, repair, and service batteries.
- 6.3 Understand how to maintain, diagnose, service, and repair starting and charging systems.
- 6.4 Diagnose, service, and repair lighting systems.
- 6.5 Diagnose, service, and repair heating and air conditioning systems and components.
- 6.6 Diagnose, service, and repair horns, wipers/washers, and other accessories.
- 6.7 Perform necessary procedures to maintain, diagnose, service, and repair vehicle electrical and electronic systems and malfunctions.

7. Students understand the function and principles of automotive drivetrain, steering and suspension, brake, and tire and wheel components and systems in accordance with national industry standards

- 7.1 Understand how to maintain, diagnose, service, and repair hydraulic and power assist systems.
- 7.2 Diagnose, service, and repair disc brakes, drum brakes, anti-lock brakes, and other brake systems as developed.
- 7.3 Diagnose, service, and repair steering and suspension systems.
- 7.4 Understand the function and operation of automatic and manual transmissions and transaxles.
- 7.5 Maintain, service, and repair tire and wheel assemblies.
- 7.6 Maintain, diagnose, service, and repair under-vehicle systems and malfunctions.



Automotive Collision Repair

1. Students understand the value and necessity of practicing personal and occupational safety and the environmental effects of collision repair and refinishing practices.

- 1.1 Understand industry environmental conservation practices and their applications.
- 1.2 Practice the safe handling and storage of chemicals and hazardous wastes as required by the Occupational Safety and Health Administration, Air Resources Board, Air Quality Management Districts, and other regulatory agencies.
- 1.3 Understand the generation of waste products and other environmentally destructive substances.
- 1.4 Use appropriate materials and repair technologies.
- 1.5 Understand the environmental implications of using new and emerging materials, resources, and technologies.
- 1.6 Understand the safety practices applied when servicing vehicle-body electronics and other vehicle systems.

2. Students understand the safe and appropriate use of tools, equipment, and work processes.

- 2.1 Understand how certain tools and equipment are used to perform maintenance and repair operations.
- 2.2 Use tools, equipment, and machines to safely measure, test, diagnose, and analyze components and systems (e.g., electrical and electronic circuits, alternating-and direct-current applications, fluid/hydraulic and air/pneumatic systems).

3. Students understand and apply measurement systems and the mathematical functions necessary to perform required fabrication, maintenance, and operation procedures.

- 3.1 Understand industry-standard measurement scales, devices, and systems used to perform design, fabrication, diagnostic, maintenance, and repair procedures.
- 3.2 Use technical vocabulary, technical reports and manuals, electronic systems, and related technical data resources, as appropriate, to determine repairs and estimates.
- 3.3 Understand the different types of welding and heat processes used in repair processes and procedures.
- 3.4 Understand the mathematical functions associated with collision repair and refinishing.



4. Students understand scientific principles in relation to chemical, mechanical, and physical functions and in relation to industry and manufacturer standards.

- 4.1 Understand the principles of mechanical, electrical, hydraulic, and pneumatic power in relation to collision repair and refinishing.
- 4.2 Understand the physical and chemical characteristics of metals, plastics, and other materials.
- 4.3 Understand the principles of electricity and electronics.
- 4.4 Know the basic terms, characteristics, and concepts of physical and chemical processes.
- 4.5 Understand body and frame construction.
- 4.6 Understand the importance of calibration processes, systems, and techniques in using various measurement and testing devices.

5. Students perform and document repair procedures in accordance with manufacturer recommendations and industry standards.

- 5.1 Understand the recommended procedures and practices of various manufacturers.
- 5.2 Perform and document repair procedures accurately
- 5.3 Use reference books and materials, technical service bulletins, and other related documents to determine repairs and repair time.

6. Students understand structural and nonstructural analysis and damage repair.

- 6.1 Understand how to perform frame inspection and repair.
- 6.2 Know applications, installations, and removal of fixed and moveable glass and hardware.
- 6.3 Know how to perform the principles of metal welding and cutting.
- 6.4 Understand and know how to prepare and analyze vehicles for repair.
- 6.5 Know how to perform outer body panel repairs, replacements, and adjustments.
- 6.6 Understand and know how to prepare vehicles for metal finishing and body filling.

7. Students understand mechanical and electrical components in relation to industry and manufacturer standards.

- 7.1 Understand how to perform steering and suspension analysis and repairs.
- 7.2 Know how to perform electrical repairs.
- 7.3 Know how to perform brake analysis and repairs.
- 7.4 Know how to perform heating, air conditioning, and cooling system repairs.
- 7.5 Understand the operation of drivetrain, fuel, intake, and exhaust systems.
- 7.6 Understand the operation of restraint and safety systems.



8. Students understand the concepts, principles, and practices of painting and refinishing.

- 8.1 Understand how to identify, use, and repair plastics and adhesives.
- 8.2 Know how to prepare surfaces for painting and finishing.
- 8.3 Understand the operation of spray guns and related equipment.
- 8.4 Know how to mix, match, and apply paint.
- 8.5 Understand the causes and cures of paint defects.
- 8.6 Understand how to prepare vehicles for final detail.



Construction

1. Students understand and apply measurement systems in the planning and layout process used in the residential construction industry.

- 1.1 Identify design solutions for residential construction problems.
- 1.2 Calculate required materials for residential construction applications.
- 1.3 Convert scaled blueprint drawing measurements to full dimensions for a given construction project.
- 1.4 Apply conventional construction measurement processes accurately (geometric and trigonometric functions).
- 1.5 Know the use of conventional construction formulas to determine production requirements.

2. Students understand the safe and appropriate use of hand tools common to the residential and commercial construction industry.

- 2.1 Use the common hand tools of the trade, such as hammers, torches, pliers, wire cutters, pipe cutters, saws, chisels (wood and concrete), and wrenches, safely and properly.
- 2.2 Maintain and care for hand tools used in residential and commercial construction.

3. Students understand the safe and appropriate use of portable power tools that are common to the residential construction industry and are appropriate to the individual student's level.

- 3.1 Use portable power tools, such as circular saws, table saws, saber saws, drills, planers, and sanders, safely and properly.
- 3.2 Use portable pneumatic tools, such as rough framing nail guns, interior finishing and brad nail guns, hammers, impact wrenches, drills, and compressors, safely and appropriately.
- 3.3 Maintain and care for portable power tools and portable pneumatic tools.

4. Students understand project management procedures and processes as they occur in a construction project.

- 4.1 Interpret and use residential construction blueprints and specifications.
- 4.2 Understand how to estimate materials from blueprints and specifications.
- 4.3 Understand the sequencing of events for specific construction projects.
- 4.4 Solve common residential construction problems, such as framing, plumbing, and electrical, by using the official codes.
- 4.5 Understand industry conventions for the creation and maintenance of construction logs.
- 4.6 Understand customer service/relations as applied to project management and wholesale and retail sales.



5. Students understand the value and necessity of practicing occupational safety in the construction industry facility and job site.

- 5.1 Understand the safe use of electrical connection methods and electrical wiring procedures.
- 5.2 Know the safety procedures and practices in various work environment settings pertaining to residential and commercial construction.

6. Students understand the variety of building phases, systems, and techniques used in residential and commercial construction.

- 6.1 Develop building plans and schedules by using processes common to residential and commercial construction.
- 6.2 Understand the processes and materials (e.g., structural, electrical, mechanical, finish) appropriate to the architectural design and residential construction.
- 6.3 Prepare the site layout and the site, including the grading and engineering of the building pad.
- 6.4 Complete the phases of residential and commercial construction.

7. Students understand the impact of financial, technical, environmental, and labor trends on the past and future of the construction industry.

- 7.1 Understand significant historical trends in the construction industry.
- 7.2 Develop plans for construction projects.
- 7.3 Understand the environmental regulations that influence residential and commercial.



Diesel Engine Technology

1. Students analyze diesel engine operations to diagnose and repair malfunctions.

- 1.1 Analyze the fundamentals of a diesel engine
- 1.2 Identify tools and equipment used in engine service
- 1.3 Utilize scan tools for engine service
- 1.4 Identify new emission controls and serviceability
- 1.5 Perform injection system repair procedures
- 1.6 Diagnose drivability concerns
- 1.7 Demonstrate proper shop safety practices while servicing engines

See Automotive Standards



Cabinetmaking and Wood Products

1. Students understand measurement systems in the planning and layout process used in the cabinetmaking and wood products industry.

- 1.1 Know design solutions to common problems in cabinetmaking and wood products.
- 1.2 Understand calculation procedures for materials and production requirements for wood product designs.
- 1.3 Convert scaled drawing measurements to full dimensional layout and template applications.
- 1.4 Know conventional measurement processes for cabinetmaking and wood products, linear measurements, and conversions of fractions and decimals.

2. Students understand the safe and appropriate use of hand tools common to the cabinetmaking and wood products industry.

- 2.1 Use common hand tools and accessories, such as planers, shapers, clamping and gripping tools, pliers, wrenches, wood chisels, hammers, hand saws, and squares, safely and properly.
- 2.2 Maintain and care for common hand tools.

3. Students understand the safe and appropriate use of portable power tools common to the cabinetmaking and wood products industry.

- 3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws, and routers, safely and appropriately.
- 3.2 Use pneumatic tools, such as pneumatic clamps, grips, framing nail guns, and finishing and brad nail guns, safely and properly.
- 3.3 Maintain and care for portable power and pneumatic tools.

4. Students understand the safe and appropriate use of stationary power machines and equipment common to the cabinetmaking and wood products industry.

- 4.1 Understand the proper and safe use of stationary power tools used in the milling process, such as shapers, sanders, joiners, table saws, and band saws.
- 4.2 Understand the proper and safe use of stationary power tools used in the assembly process, such as pneumatic table clamps, case clamps, case frame fasteners, and hardware fasteners.
- 4.3 Understand the proper and safe use of stationary power tools used in the finishing process, such as glue applicators, laminate applicators, and lacquer and paint applicators.
- 4.4 Know the basic care, maintenance, and lock-out procedures for stationary power tools.



5. Students understand the value and necessity of practicing occupational safety in the cabinetmaking/wood products industry or shop.

- 5.1 Know the safety rules in the cabinetmaking/wood products work environment.
- 5.2 Use hand tools (wood chisels, drills, coping saws) and power tools (routers, sanders, planers) safely in the cabinetmaking/ wood products work environment.
- 5.3 Understand how to handle and dispose of toxic materials safely and use protective clothing as needed when using lacquers, acetone, thinners, staining materials, and so forth in an environmentally responsible manner.

6. Students understand the variety of production processes used in the cabinetmaking and wood products industry.

- 6.1 Design and create cabinet and wood products.
- 6.2 Develop a production plan, including the layout, bill of materials, and cost analysis, for the production of cabinets or wood products.
- 6.3 Use stationary and portable power tools in milling the components for cabinets and wood products.
- 6.4 Use stationary and portable power tools in the assembly of cabinet and wood product components.
- 6.5 Use finish tools (e.g., airless sprayers, palm sanders) and techniques for finishing cabinets and wood products.
- 6.6 Use installation tools and understand the processes for the installation of cabinets, millwork, and wood products.

7. Students understand the impact of financial, technical, and environmental trends on the past and future of the cabinetmaking and wood products industry.

- 7.1 Understand significant historical trends in cabinetmaking and wood products technology.
- 7.2 Understand environmental regulations that influence the cabinetmaking and wood products industry.
- 7.3 Understand issues of the sustainable use of wood product resources.



Drafting and Design

1. Students recognize historical and current events related to engineering design and their effects on society.

- 1.1 Know historical and current events that have relevance to engineering design.
- 1.2 Understand the development of graphical language in relation to engineering design.

2. Students understand the effective use of engineering design equipment.

- 2.1 Use the appropriate methods and techniques for employing all engineering design equipment.
- 2.2 Apply conventional engineering design processes and procedures accurately, appropriately, and safely.
- 2.3 Apply the concepts of engineering design to the tools, equipment, projects, and procedures of engineering and design projects.

3. Students understand measurement systems as they apply to engineering design.

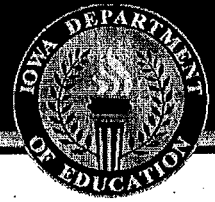
- 3.1 Know how the various measurement systems are used in engineering drawings.
- 3.2 Understand the degree of accuracy necessary for engineering design.

4. Students use proper projection techniques to develop orthographic drawings.

- 4.1 Understand the commands and concepts necessary for producing drawings through traditional or computer-aided means.
- 4.2 Understand the orthographic projection process for developing multiview drawings.
- 4.3 Understand the various techniques for viewing objects.
- 4.4 Use the concepts of geometric construction in the development of design drawings.
- 4.5 Apply pictorial drawings derived from orthographic multiview drawings and sketches and from a solid modeler.

5. Students know various object-editing techniques and CAD programs.

- 5.1 Understand the commands and concepts necessary for editing engineering drawings.
- 5.2 Know the various object-altering techniques.
- 5.3 Know the CAD components and the operational functions of CAD systems.
- 5.4 Apply two-dimensional and three-dimensional CAD operations in creating working and pictorial drawings, notes, and notations.
- 5.5 Understand how to determine properties of drawing objects.



6. Students understand and apply proper dimensioning to drawings.

- 6.1 Know a variety of drafting applications and understand the proper dimensioning styles for each.
- 6.2 Apply dimensioning to various objects and features.
- 6.3 Edit a dimension by using various editing methods.

7. Students understand sectional view applications and functions.

- 7.1 Understand the function of sectional views.
- 7.2 Use a sectional view and appropriate cutting planes to clarify hidden features of an object.

8. Students understand the tolerance relationships between mating parts.

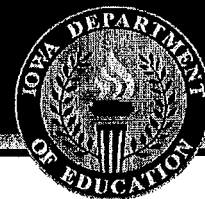
- 8.1 Understand what constitutes mating parts in engineering design.
- 8.2 Use tolerancing in an engineering drawing.
- 8.3 Interpret geometric tolerancing symbols in a drawing.

9. Students understand the methods of inserting text into a drawing.

- 9.1 Understand the processes of lettering and text editing.
- 9.2 Develop drawings using notes and specifications.
- 9.3 Understand the methods of title block creation.

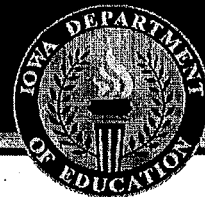
10. Students understand the sketching process used in concept development.

- 10.1 Understand the process of producing proportional two- and three-dimensional sketches and designs.
- 10.2 Use sketching techniques as they apply to a variety of architectural and engineering models.
- 10.3 Use freehand graphic communication skills to represent conceptual ideas, analysis, and design concepts.



Engineering and Design

1. Students recognize historical and current events related to engineering design and their effects on society.
 - 1.1 Know historical and current events that have relevance to engineering and design.
 - 1.2 Understand the development of graphical language in relation to engineering design.
2. Students understand the effective use of engineering design equipment.
 - 2.1 Use the appropriate methods and techniques for employing all engineering design equipment.
 - 2.2 Apply conventional engineering design processes and procedures accurately, appropriately, and safely.
 - 2.3 Apply the concepts of engineering design to the tools, equipment, projects, and procedures of engineering and design projects.
3. Students understand measurement systems as they apply to engineering design.
 - 3.1 Know how the various measurement systems are used in engineering drawings.
 - 3.2 Understand the degree of accuracy necessary for engineering design.
4. Students understand how the principles of force, work, rate, power, energy, and resistance relate to mechanical, electrical, fluid, and thermal engineering systems.
 - 4.1 Know the six simple machines and their applications.
 - 4.2 Know how energy is transferred; know the effects of resistance in mechanical, electrical, fluid, and thermal systems.
 - 4.3 Solve problems by using the appropriate units applied in mechanical, electrical, fluid, and thermal engineering systems.
5. Students understand the design process and how to solve analysis and design problems.
 - 5.1 Understand the steps in the design process.
 - 5.2 Determine what information and principles are relevant to a problem and its analysis.
 - 5.3 Choose between alternate solutions in solving a problem and be able to justify the choices made in determining a solution.
 - 5.4 Understand the process of developing multiple details into a single solution.
 - 5.5 Build a prototype from plans and test it.
 - 5.6 Evaluate and redesign a prototype on the basis of collected test data.



6. Students understand industrial engineering processes, including the use of tools and equipment, methods of measurement, and quality assurance.

- 6.1 Know the common structure and processes of a quality assurance cycle.
- 6.2 Understand the major manufacturing processes.
- 6.3 Use tools, fasteners, and joining systems employed in selected engineering processes.
- 6.4 Estimate and measure the size of objects in both Standard International and United States units.
- 6.5 Calibrate and measure objects by using precision measurement tools and instruments.

7. Students understand the concepts of physics that are fundamental to engineering technology.

- 7.1 Understand Newton's laws and how they affect and define the movement of objects.
- 7.2 Understand how the laws of conservation of energy and momentum provide a way to predict and describe the movement of objects.

8. Students understand the fundamentals of systems and products as they are developed and released to production and marketing.

- 8.1 Understand the process of product development.
- 8.2 Understand charting and the use of graphic tools in illustrating the development of a product and the processes involved.

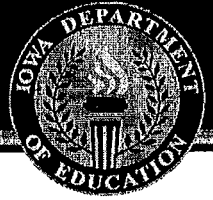
9. Students understand the effective use of engineering technology equipment.

- 9.1 Use methods and techniques for employing all engineering technology equipment appropriately.
- 9.2 Apply conventional engineering technology processes and procedures accurately, appropriately, and safely.
- 9.3 Apply the concepts of engineering technology to the tools, equipment, projects, and procedures of the program.



Manufacturing

1. Students understand the planning and layout operations used in machine tool and materials forming processes.
 - 1.1 Interpret scaled machine tool and materials forming prints; gather design and materials information; perform calculations; and use the detail to plan, lay out, and produce parts or finished products that meet applicable standards.
 - 1.2 Understand the design parameters across machine tool and materials-forming organizational levels.
 - 1.3 Use current information technology ideation and design process systems in the manufacturing of machined and formed parts and products.
2. Students understand how materials can be processed through the use of machine tools, such as milling, drilling, turning, and shaping machines, and forming equipment, such as dies, presses, and rolls.
 - 2.1 Understand the qualities of various raw and industrial materials and how these qualities affect the ability of the materials to be processed in the manufacturing of machined and formed parts and products.
 - 2.2 Use machine tools, such as machine lathes, milling machines, drilling machines, power hacksaws, and band saws, and forming equipment, such as presses, brakes, ironworkers, and stake benches, to cut, shape, combine, and form manufactured parts or products that meet the standards of the National Institute for Metalworking Skills, the Manufacturing Skill Standards Council, or similar standards.
3. Students understand various types of machine and forming assembly processes, such as flow, pressure, cold, and adhesive bonding, and mechanical fasteners.
 - 3.1 Use various methods for the assembly of machined and formed parts and products in manufacturing, such as thread cutting and bonding agents.
 - 3.2 Select and use the tools, such as taps and dies, wrenches, and spot welders, and the assembly process appropriate to the design criteria of a specific machined and formed product.
4. Students understand finishing processes and the differences between various types of finishing materials used in the manufacturing of machined and formed parts and products.
 - 4.1 Understand and use processes such as dipping, plating, spraying, and flow coating to finish machined and formed materials.
 - 4.2 Select and use appropriate machined- and formed-part finishing processes, such as coating, plating, and anodizing, to meet specific product design criteria.



5. Students understand the purposes and processes of inspection and quality control in machining and forming manufacturing processes.

- 5.1 Know the reasons for inspection and quality control in the manufacture of machined and formed parts.
- 5.2 Know how to perform a continuous online quality control inspection of machined and formed parts.
- 5.3 Know how to troubleshoot performance problems of machining and forming systems.

6. Students understand various machining and forming manufacturing systems that require standard hand and machine tools.

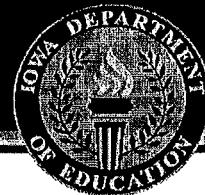
- 6.1 Understand the characteristics of various machining and forming systems used in conventional manufacturing industries, such as open dies, smith forging, blow molding, stamping, drawing, shearing, chip removal, milling, turning, and electrical discharge systems.
- 6.2 Select and use appropriate machining and forming tools, equipment, and inspection devices to manufacture parts or products.

7. Students understand various machining and forming automated manufacturing systems, tool design, design for manufacturing, flexible manufacturing systems, and materials resource planning.

- 7.1 Understand materials and processes in relation to machining and forming manufacturing systems.
- 7.2 Understand the processes involved in the following machining and forming manufacturing systems: "just in time," tool design, design for manufacturing, flexible manufacturing systems, and materials resource planning.
- 7.3 Use computers to design and produce machined and formed products, write numerical control programs, and control robots.

8. Students understand the development of emerging machining and forming technology systems.

- 8.1 Manufacture parts or products from industrial materials by using machining and forming systems, such as electrical discharge, laser cutting, chemical machining, and chemical bonding processes.
- 8.2 Understand the importance of maintaining documentation for machining and forming systems.



9. Students understand the operation and functions of machine tools in production and prototype work.

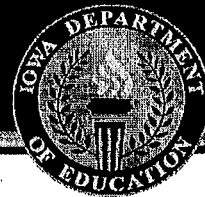
- 9.1 Use various machine tools, such as lathes, mills, drills, and saws, to produce parts and products.
- 9.2 Select appropriate machining processes and equipment to produce prototypes or production parts or products.

10. Students understand industrial forming processes and their application to specific types of materials.

- 10.1 Use various forming tools and equipment, such as rolls, brakes, dies, and presses, to manufacture parts and products.
- 10.2 Select appropriate tools, processes, and equipment to successfully produce formed parts or products.

11. Students understand how a manufacturing company is organized and the elements of a machining and forming production management system.

- 11.1 Understand corporate structures that affect machining and forming production.
- 11.2 Understand that a machining and forming production management system includes planning, engineering, organizing, and controlling resources and manufacturing processes.
- 11.3 Know how scheduling, quality control, accident prevention, and inventory control are used efficiently and appropriately in a machining and forming production management system.



Precision Metalworking

1. Students understand the planning and layout operations used in machine tool and materials forming processes.
 - 1.1 Interpret scaled machine tool and materials forming prints; gather design and materials information; perform calculations; and use the detail to plan, lay out, and produce parts or finished products that meet applicable standards.
 - 1.2 Understand the design parameters across machine tool and materials-forming organizational levels.
 - 1.3 Use current information technology ideation and design process systems in the manufacturing of machined and formed parts and products.
2. Students understand how materials can be processed through the use of machine tools, such as milling, drilling, turning, and shaping machines, and forming equipment, such as dies, presses, and rolls.
 - 2.1 Understand the qualities of various raw and industrial materials and how these qualities affect the ability of the materials to be processed in the manufacturing of machined and formed parts and products:
 - 2.2 Use machine tools, such as machine lathes, milling machines, drilling machines, power hacksaws, and band saws, and forming equipment, such as presses, brakes, ironworkers, and stake benches, to cut, shape, combine, and form manufactured parts or products that meet the standards of the National Institute for Metalworking Skills, the Manufacturing Skill Standards Council, or similar standards.
3. Students understand various types of machine and forming assembly processes, such as flow, pressure, cold, and adhesive bonding, and mechanical fasteners.
 - 3.1 Use various methods for the assembly of machined and formed parts and products in manufacturing, such as thread cutting and bonding agents.
 - 3.2 Select and use the tools, such as taps and dies, wrenches, and spot welders, and the assembly process appropriate to the design criteria of a specific machined and formed product.
4. Students understand finishing processes and the differences between various types of finishing materials used in the manufacturing of machined and formed parts and products.
 - 4.1 Understand and use processes such as dipping, plating, spraying, and flow coating to finish machined and formed materials.
 - 4.2 Select and use appropriate machined- and formed-part finishing processes, such as coating, plating, and anodizing, to meet specific product design criteria.



5. Students understand the purposes and processes of inspection and quality control in machining and forming manufacturing processes.

- 5.1 Know the reasons for inspection and quality control in the manufacture of machined and formed parts.
- 5.2 Know how to perform a continuous online quality control inspection of machined and formed parts.
- 5.3 Know how to troubleshoot performance problems of machining and forming systems.

6. Students understand various machining and forming manufacturing systems that require standard hand and machine tools.

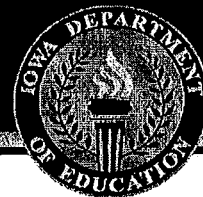
- 6.1 Understand the characteristics of various machining and forming systems used in conventional manufacturing industries, such as open dies, smith forging, blow molding, stamping, drawing, shearing, chip removal, milling, turning, and electrical discharge systems.
- 6.2 Select and use appropriate machining and forming tools, equipment, and inspection devices to manufacture parts or products.

7. Students understand various machining and forming automated manufacturing systems, tool design, design for manufacturing, flexible manufacturing systems, and materials resource planning.

- 7.1 Understand materials and processes in relation to machining and forming manufacturing systems.
- 7.2 Understand the processes involved in the following machining and forming manufacturing systems: "just in time," tool design, design for manufacturing, flexible manufacturing systems, and materials resource planning.
- 7.3 Use computers to design and produce machined and formed products, write numerical control programs, and control robots.

8. Students understand the development of emerging machining and forming technology systems.

- 8.1 Manufacture parts or products from industrial materials by using machining and forming systems, such as electrical discharge, laser cutting, chemical machining, and chemical bonding processes.
- 8.2 Understand the importance of maintaining documentation for machining and forming systems.

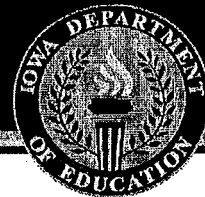


9. Students understand the operation and functions of machine tools in production and prototype work.

- 9.1 Use various machine tools, such as lathes, mills, drills, and saws, to produce parts and products.
- 9.2 Select appropriate machining processes and equipment to produce prototypes or production parts or products.

10. Students understand industrial forming processes and their application to specific types of materials.

- 10.1 Use various forming tools and equipment, such as rolls, brakes, dies, and presses, to manufacture parts and products.
- 10.2 Select appropriate tools, processes, and equipment to successfully produce formed parts or products.



Welding

1. Students understand the planning and layout operations used in welding processes.
 - 1.1 Interpret scaled welding prints; gather design and materials information; perform calculations; and use the detail to plan, lay out, and produce parts or finished products.
 - 1.2 Understand the design parameters across welding-process organizational levels.
 - 1.3 Use current information technology ideation and design process systems in the manufacturing of welded parts and products.
2. Students understand how materials can be processed through the use of welding tools and equipment.
 - 2.1 Understand the qualities of various raw and industrial materials and how these qualities affect the ability of the materials to be processed to produce useful and value-added welded parts and products.
 - 2.2 Use welding tools and equipment, such as MIG, TIG, arc, forge and furnace, to combine or join manufactured parts and products, resulting in a finished product that meets industry standards.
3. Students understand various types of welding assembly processes.
 - 3.1 Bond industrial materials by using adhesive and cohesive processes, such as flow, pressure, cold, and fusion bonding.
 - 3.2 Understand the processes used for finishing welded materials.
 - 3.3 Use welding tools, such as MIG, TIG, arc, forge, and furnace, and the equipment and assembly processes appropriate to the design criteria of a specific product to result in a finished product that meets industry standards.
4. Students understand finishing processes and the differences between various types of finishing materials used in the manufacture of welded parts and products.
 - 4.1 Know the steps to be taken and the choices to be made in finishing welded materials.
 - 4.2 Understand how to select an appropriate finishing process to meet the design criteria of a specific welded product.
5. Students understand the purposes and processes of inspection and quality control in welding manufacturing processes.
 - 5.1 Know the reasons for inspection and quality control in the manufacturing of welded parts.
 - 5.2 Perform quality control inspections of welded parts.
 - 5.3 Know how to troubleshoot performance problems of welding systems.



6. Students understand various welding systems that require standard hand and machine tools.

- 6.1 Understand the various welding systems used in conventional manufacturing industries in order to select and use appropriate tools, equipment, and inspection devices.
- 6.2 Select and use appropriate welding tools, equipment, and inspection devices to manufacture parts or products.

7. Students understand various automated welding systems, welding design for manufacturing, flexible manufacturing systems, and materials resource planning.

- 7.1 Understand materials and processes in relation to welding systems.
- 7.2 Understand welding processes involved in the following manufacturing systems: "just in time," design for manufacturing, flexible manufacturing systems, and materials resource planning.
- 7.3 Use computers to design and produce welded products, write numerical control programs, and control robots.
- 7.4 Understand the ways in which emerging welding systems may be integrated into current manufacturing processes.
- 7.5 Understand the importance of maintaining documentation for welding systems.




8. Students understand various joining or combining processes, including welding processes used in manufacturing, maintenance, and repair.

- 8.1 Know various welding processes used to complete a fabrication, an assembly, or a repair.
- 8.2 Complete a fabrication, an assembly, or a repair by using appropriate techniques and processes.

9. Students understand how a manufacturing company is organized and the elements of welding production management.

- 9.1 Understand corporate structures that affect welding production.
- 9.2 Understand that a welding production management system includes planning, engineering, organizing, and controlling resources and manufacturing processes.
- 9.3 Know how scheduling, quality control, accident prevention, and inventory control are used efficiently and appropriately in a welding production management system.

BUILDING YOUR FUTURE
YOUR COURSES COUNT
MINIMUM 2018-19 COURSE REQUIREMENTS FOR ADMISSION

	<i>Iowa State University</i> 	<i>The University of Iowa</i> 	<i>University of Northern Iowa</i> 	<i>Optimum Recommendations For Success</i>
ENGLISH	4 years emphasizing writing, speaking, reading, as well as an understanding and appreciation of literature.	4 years with emphasis on the analysis and interpretation of literature composition and speech	4 years including one year of composition, also may include one year of speech, communication or journalism.	4 years with emphasis on the communication skills of writing, reading and listening, and the analysis and interpretation of literature. In addition, courses in journalism and media literacy will be valuable. Extracurricular activities in debate, speech contest, newspaper and yearbook will further develop essential competencies.
MATH	3 years including one year each of algebra, geometry and advanced algebra.	3 years including 2 years of algebra and 1 year of geometry for admission to the college of Liberal Arts and Sciences. 4 years including 2 years of algebra, 1 year each of geometry and high math (pre-calc or equivalent) for admission to the College of Engineering.	3 years including the equivalent of algebra, geometry and algebra II.	4 years, one in each year of high school.. While advanced courses like calculus and statistics are good, it's more important that you gain a complete understanding of algebra II and geometry.
NATURAL SCIENCE	3 years including one year each from any two of the following: biology, chemistry or physics	3 years including courses in physical science, biology, chemistry, environmental science and physics for admission to the College of Liberal Art and Sciences and Engineering. 3 years including 1 year each of biology, chemistry and physics for admission to the College of Nursing.	3 year including courses in general science, biology, chemistry, earth science or physics. Laboratory experience is highly recommended.	4 years, one in each year of high school. To be better prepared, take at least one year each of biology, chemistry and physics. These can be taken in any order and may be taught productively in either a separate or an integrated fashion, depending on your schools offerings.
SOCIAL STUDIES	2 years for admission to College of Agriculture and Life Sciences, Business, Design, Engineering and Human Sciences. 3 years for admission to the College of Liberal Arts and Sciences	3 years with U.S. history and world history recommended for admission to the college of Liberal Arts and Sciences. 2 years with U.S. history and world history recommended for admission to the College of Engineering.	3 years including courses in anthropology, economics, geography, government, history, psychology or sociology	3 years is essential, but four is better. Take at least one year each of U.S. and world history. Additional courses in anthropology, economics, and political science, psychology and sociology provide an important understanding of our political, social and economic institutions.
WORLD LANGUAGE	2 years of a single world language for admission to the Colleges of Engineering and Liberal Arts and Sciences.	2 years of single world language are required for admission. For many degrees, the fourth year of proficiency is required for graduation. Nursing - 4 years in a single language or two years each in two different languages.	World language courses are not required for admission. However, two years of world language in high school with a C- or above in the last course will meet the university graduation requirement.	4 years of a single world language. By taking world language during all four years of high school, you will go beyond the basic skills and begin to use the language and reinforce your fluency.
OTHER COURSES	Specific elective courses are not required for admission.	Specific elective courses are not required for admission.	2 years of additional courses from the required subject areas, world language, or the fine arts.	Explore! Courses in the fine arts, performing arts, computers, or technology will help round out your high school experience. Your future field of concentration or career may lie in one of those areas. Follow your interests, talents, and the strength of your school. Remember to choose courses with high academic standards.

BOARD OF REGENTS, STATE OF IOWA

Freshman Admission Requirements to the Regent Universities

Admission of freshmen who wish to enroll at any of the Iowa Regent is based on the Regent Admission Index (RAI) formulas described below. In addition, applicants must meet the minimum high school course requirements for the university they wish to enter.

RAI Formula
<ul style="list-style-type: none">• (3 x ACT composite score)• (30 x Cumulative GPA)• (5 x Number of years of high school core courses) <hr style="width: 50%; margin-left: 0;"/>
RAI Score

Note: For purposes of calculating the RAI, SAT scores will be converted to ACT composite equivalents, 99% is the top value for high school rank, 4.00 is the top value for GPA, and the number of high school core courses completed is expressed in terms of years or fractions of years (e.g., one semester equals 0.5 year). Applicants who do not possess all required factors will be evaluated on an individual basis by the Regent universities to which they apply.

Freshman applicants from Iowa high schools who achieve at least a 245 RAI score and who meet the minimum number of high school courses required by the Regent universities will qualify for automatic admission to any of the three Regent universities. Freshman applicants who achieve less than a 245 RAI score may also be admitted to a specific Regent university; however, each Regent university will review these applications on an individual basis and the admission decision will be specific to each institution. Freshman applicants from approved high schools in other states may be held to higher academic standards, but must meet at least the same requirements as graduates of Iowa high schools.

The Regent universities recognize that the traditional measures of academic performance do not adequately describe some students' potential for success. Therefore, the Regent universities strongly encourage all interested students to apply for admission. Applicants who feel their academic record is not an accurate reflection of their potential for success are encouraged to provide supplemental information explaining their circumstances in addition to the application, academic transcripts, and test scores.

Summary of Scholarship Rule, 281- IAC 36.15(2)

The following requirements were effective 7-1-08:

- A student must receive credit in at least 4 subjects at all times.
- A student must pass all and make adequate progress toward graduation to remain eligible.
- If a student is not passing all at end of a final grading period, student is ineligible for first period of 30-consecutive calendar days in the interscholastic athletic event in which the student is a contestant. There is no requirement that the student competed in the sport previously. Students in baseball or softball have the same penalty as all other students.
- If a student is not passing all at any check point (!! school checks at any time other than the end of a grading period), period of ineligibility and conditions of reinstatement are left to the school.
- Schools must check grades at the end of each grading period; otherwise, a school determines if and how often it checks grades.
- A student with a disability and an IEP is judged based on progress made toward IEP goals.
- The ability to use summer school or other means to make up failing grades for eligibility purposes not available. The rule now also requires that all original failing grades (even those remediated for purposes other than athletic eligibility) be reported to any school to which the student transfers.



NCAA Eligibility Center

ONE OPPORTUNITY. LIMITLESS POSSIBILITIES.

If you want to play sports at an NCAA Division I or II school, start by registering for a Certification Account with the NCAA Eligibility Center at eligibilitycenter.org. If you want to play Division III sports or you aren't sure where you want to compete, start by creating a Profile Page at eligibilitycenter.org.

ACADEMIC REQUIREMENTS

To play sports at a Division I or II school, you must graduate from high school, complete 16 NCAA-approved core courses, earn a minimum GPA and earn an ACT or SAT score that matches your core-course GPA.

CORE COURSES

Visit eligibilitycenter.org/courselist for a full list of your high school's approved core courses. Complete 16 core courses in the following areas:

DIVISION I

Complete 10 NCAA core courses, including seven in English, math or natural/physical science, before your seventh semester.

ENGLISH	MATH (Algebra I or higher)	NATURAL/PHYSICAL SCIENCE (Including one year of lab, if offered.)	ADDITIONAL (English, math or natural/physical science) 1 YEAR	SOCIAL SCIENCE	ADDITIONAL COURSES (Any area listed to the left, foreign language or comparative religion/philosophy) 4 YEARS
4 YEARS	3 YEARS	2 YEARS		2 YEARS	

DIVISION II

ENGLISH	MATH (Algebra I or higher)	NATURAL/PHYSICAL SCIENCE (Including one year of lab, if offered.)	ADDITIONAL (English, math or natural/physical science) 3 YEARS	SOCIAL SCIENCE	ADDITIONAL COURSES (Any area listed to the left, foreign language or comparative religion/philosophy) 4 YEARS
3 YEARS	2 YEARS	2 YEARS		2 YEARS	

GRADE-POINT AVERAGE

The NCAA Eligibility Center calculates your grade-point average (GPA) based on the grades you earn in NCAA-approved core courses.

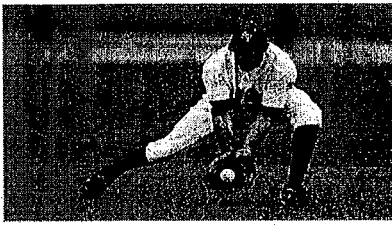
- DI requires a minimum 2.3 GPA. DII requires a minimum 2.2 GPA.

TEST SCORES

Take the ACT or SAT as many times as you want before you enroll full time in college, but remember to list the NCAA Eligibility Center (code 9999) as a score recipient whenever you register to take a test. If you take a test more than once, send us all your scores and we will use the best scores from each test section to create your sum score. We accept official scores only from the ACT or SAT, and won't use scores shown on your high school transcript.

SLIDING SCALE

Divisions I and II use sliding scales to match test scores and GPAs to determine eligibility. The sliding scale balances your test score with your GPA. If you have a low test score, you need a higher GPA to be eligible. Find more information about sliding scales at ncaa.org/student-athletes/future/test-scores.



HIGH SCHOOL TIMELINE

GRADE 9

Plan

- Start planning now! Take the right courses and earn the best grades you can.
- Ask your counselor for a list of your high school's NCAA core courses to make sure you take the right classes. Or, find your high school's list of NCAA core courses at eligibilitycenter.org/courselist.

GRADE 10

Register

- Register for a Certification Account or Profile Page with the NCAA Eligibility Center at eligibilitycenter.org.
- If you fall behind on course, don't take shortcuts to catch up. Ask your counselor for help with finding approved courses or programs you can take.

GRADE 11

Study

- Check with your counselor to make sure you are on track to graduate on time.
- Take the ACT or SAT, and make sure we get your scores by using code 9999.
- The end of the year, ask your counselor to upload your official transcript.

GRADE 12

Graduate

- Take the ACT or SAT again, if necessary, and make sure we get your scores by using code 9999.
- Request your final amateurism certification after April 1.
- After you graduate, ask your counselor to upload your final official transcript with proof of graduation.

CORE COURSES

This simple formula will help you meet Divisions I and II core-course requirements:

$$4 \times 4 = 16$$

+4 English courses (one per year)

+4 Math courses (one per year)

+4 Science courses (one per year)

+4 Social Science courses (one per year)

=16 NCAA CORE COURSES

For more information: ncaa.org/playcollegesports eligibilitycenter.org

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