Individual Test Item Specifications

8209530- Digital Design 3
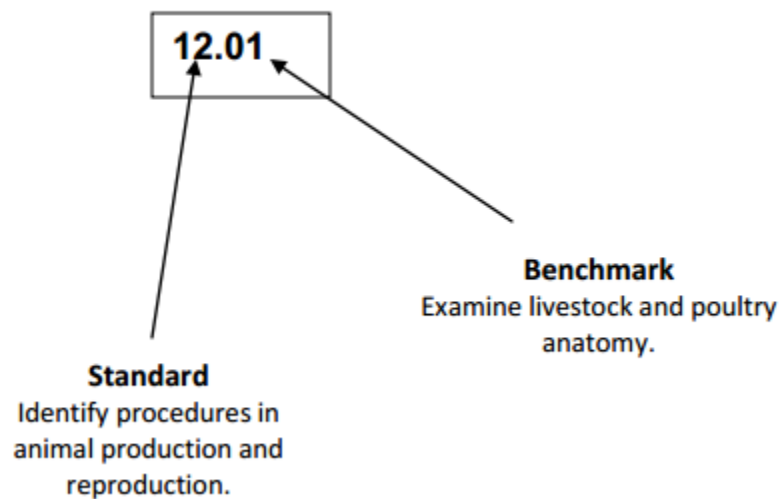
2015
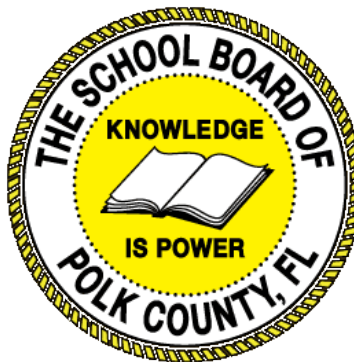
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I. Guide to the Individual Benchmark Specifications

Content specific guidelines are given in the *Individual Benchmark Specifications* for each course. The *Specifications* contains specific information about the alignment of items with the Florida Standards.   It identifies the manner in which each benchmark is assessed, provides content limits and stimulus attributes for each benchmark, and gives specific information about content, item types, and response attributes.

Benchmark Classification System

- Each Career and Technical Education course has its own set of course standards. The benchmarks are organized numerically, with two numbers separated by a decimal point. The first number is the standard number, and the second number is the benchmark number. You will see these numbers on the Item Specifications for each course.

An example, from Agritechnology 1:

12.01

Benchmark
Examine livestock and poultry anatomy.
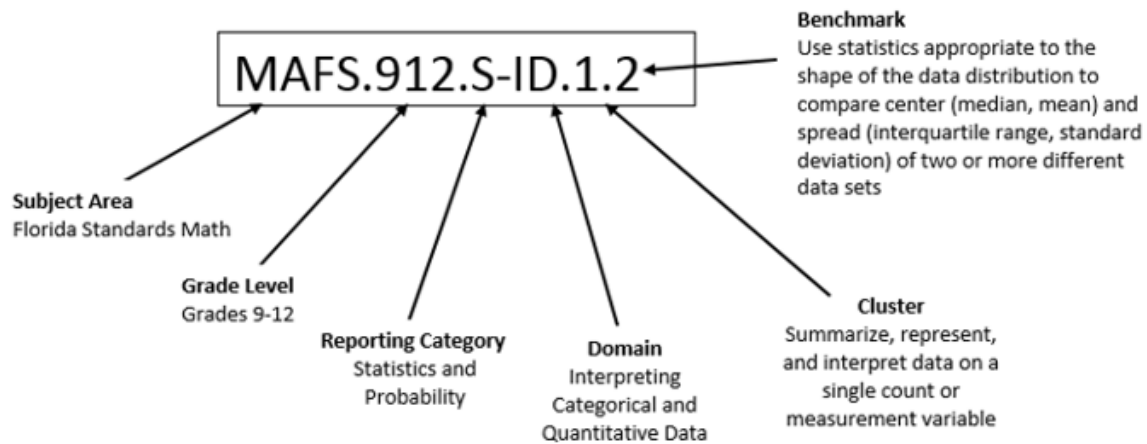
Standard
Identify procedures in animal production and reproduction.

The image above describes the components of a Career and Technical Education Standard and Benchmark classification system.

Each MAFS benchmark is labeled with a system of letters and numbers.

- The four letters in the *first position* of the label identify the **Subject**.
- The number(s) in the *second position* represents the **Grade Level**.
- The letter(s) in the *third position* represents the **Category**.
- The number in the fourth position shows the **Domain**.
- The number in the *fifth position* identifies the **Cluster**.
- The number in the last position identifies the specific **Benchmark**.

Benchmark
Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets

MAFS.912.S-ID.1.2

Subject Area
Florida Standards Math

Grade Level
Grades 9-12

Reporting Category
Statistics and
Probability

Domain
Interpreting
Categorical and
Quantitative Data

Cluster
Summarize, represent,
and interpret data on a
single count or
measurement variable

The image above describes the components of a Florida Standard and Benchmark classification system.

Definitions of Benchmark Specifications

The *Individual Benchmark Specifications* provides standard-specific guidance for assessment item development for the Florida Department of Education Career and Technical Education item banks. For each benchmark assessed, the following information is provided.

Reporting Category	is a grouping of related benchmarks that can be used to summarize and report achievement.
Standard	refers to the standard statement presented in the Florida Standards.
Benchmark	refers to the benchmark statement presented in the Florida Standards. In some cases, two or more related benchmarks are grouped together because the assessment of one benchmark addresses another benchmark.
Item Types	are used to assess the benchmark or group of benchmark.
Cognitive Complexity	ideal level at which item should be assessed.
Benchmark Clarifications	explain how achievement of the benchmark will be demonstrated by students. In other words, the clarification statements explain what the student will do when responding to questions.
Content Limits	define the range of content knowledge and that should be assessed in the items for the benchmark.
Stimulus Attributes	define the types of stimulus materials that should be used in the items, including the appropriate use of graphic materials and item context or content.
Response Attributes	define the characteristics of the answers that a student must choose or provide.
Content Focus	addresses the broad key terms and concepts associated with the examples found in the standards, benchmarks, or benchmark clarifications.
Sample Items	are provided for each type of question assessed. The correct answer for all sample items is provided.

II. Individual Benchmark Specifications

Standard	02.0 Demonstrate comprehension and communication skills--The student will be able to:
Benchmark	02.01 Collaborate with individuals and teams to complete tasks
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=X
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to effectively work collaboratively.
Content Focus	Teamwork, collaborate, teams
Content Limits	Students will know how to work together to finish a project.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: A personality trait which the communication style is a person suffers in silence but feels strongly about the issue? a. aggressive b. emotional c. nonverbal d. passive Correct answer: d

Standard	02.0 Demonstrate comprehension and communication skills--The student will be able to:
Benchmark	02.02 Apply the writing process to the creation of appropriate documents following designated business formats.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=X
Cognitive Complexity Level	High
Benchmark Clarification	The student will be able to create industry related forms of communication in accepted formats.
Content Focus	Business forms, project scope, design notebook, letters, memos, email etiquette, file formats, electronic files, proposals, marketing information, target audience (read analysis etc.)
Content Limits	Items should be limited to basic document types and what documents are appropriate for the situation. Basic communication skills and etiquette are needed. Industry specific documents such as project scope and proposals.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Short Answer: In 2-3 complete sentences, explain what are the five parts to a business letter? The five parts of a business letter include heading, inside address, greeting, body, closing and signature. Rubric: 2 points: Student will completely and thoroughly explain all five elements in 2-3 complete sentences. 1 point: Student will completely and thoroughly explain at least three elements in 2-3 complete sentences. 0 points: Student did not answer correctly or did not attempt.

Standard	16.0 Demonstrate proficiency in page design applicable to the WWW–The student will be able to:
Benchmark	16.01 Develop an awareness of acceptable web page design, including index pages in relation to the rest of the web site.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)= (ER)=X
Cognitive Complexity Level	High
Benchmark Clarification	The student will be able to identify and explain the elements of a good design for webpages.
Content Focus	Design, elements, principles, web page, navigation
Content Limits	Students will know what makes a good design.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: In order to have a clear, organized site architecture, you have to structure it in advance. What is this process called? a. navigation bar b. sidebar c. site blueprint d. sub navigation Correct answer: c

Standard	16.0 Demonstrate proficiency in page design applicable to the WWW–The student will be able to:
Benchmark	16.02 Access and digitize graphics through various resources (e.g., scanner, digital cameras, online graphics, clipart, CD Rom's).
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to explain and show how to operate a scanner and digital camera to take and transfer graphics.
Content Focus	Scanner, digital camera, graphics, digitizers, graphic software
Content Limits	Student will know how to find, transfer, and use graphics in digital software.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: What is the process of digitizing? a. change analog to digital b. change the number of pixels c. sampling of analog files d. sampling of resolution Correct answer: d

Standard	16.0 Demonstrate proficiency in page design applicable to the WWW–The student will be able to:
Benchmark	16.03 Use image design software to create and edit images.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=X
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to use image editing software to make changes to images and create new images.
Content Focus	Image design software, edits, shapes, pen, fill, stroke
Content Limits	Student will be familiar with basic edits like crop and brightness, but also edits such as curves, hue, saturation etc.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: Which kind of adjustment layer could you use to correct it the highlight, mid tone, or shadow areas of an image? a. brightness and contrast b. curves c. hue and saturation d. levels Correct answer: b

Standard	16.0 Demonstrate proficiency in page design applicable to the WWW–The student will be able to:
Benchmark	16.04 Demonstrate proficiency in publishing to the internet.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to publish files, sites, and images to the internet.
Content Focus	Internet, html, ftp, domain, hosting, file extensions, web friendly software
Content Limits	Student will know the types of files and what is needed to successfully publish files.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: What is a graphical user interface of menus and toolbars used to upload or download files? a. FTP b. ISDN c. TCP/IP d. T3 Correct answer: a

Standard	17.0 Demonstrate proficiency using specialized web design software--The student will be able to:
Benchmark	17.01 Compare and contrast various specialized web design software (e.g., Flash, Shockwave, GoLive, Director, etc.).
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)= (ER)=X
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to identify and explain the strengths and weaknesses of web design software.
Content Focus	Web design software
Content Limits	Student will know what software is appropriate for the task at hand.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: Flash and Shockwave are programs that show animation on web pages. What is one difference between the two programs? a. Flash loads faster and is more universal. b. Shockwave loads faster and is more universal. c. Flash loads faster and is open source software. d. Shockwave is faster and is open source software. Correct answer: a

Standard	17.0 Demonstrate proficiency using specialized web design software--The student will be able to:
Benchmark	17.02 Demonstrate proficiency using use of various specialized web design software (e.g., Flash, Shockwave, GoLive, Director, etc.).
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to choose the correct web design software for the task at hand.
Content Focus	Web design software
Content Limits	Student will understand the limits of each software and know the pros and cons of using the software in that situation.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: When using Adobe Flash, what is the appropriate file extension? a. .dcr b. .flv c. .SITE d. .swf Correct answer: d

Standard	27.0 Perform decision-making activities—The student will be able to:
Benchmark	27.02 Evaluate information to be used and choose relevant material.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)= (ER)=X
Cognitive Complexity Level	High
Benchmark Clarification	The student will be able to choose appropriate and pertinent information to complete the task at hand.
Content Focus	Listening skills, purpose, audience, goals, various software available, various types of publications such as but not limited to: newsletter, social networking, webpages etc.
Content Limits	Student will understand what information is needed to complete a task.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: Bella was given the marketing plan for her latest project. She needs to determine what type of marketing materials to use for the campaign. What information should Bella look for? a. find the owners names b. find the cost of the product c. find the company's website d. find results of the focus group Correct answer: d

Standard	27.0 Perform decision-making activities—The student will be able to:
Benchmark	27.03 Determine the audience.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)= (ER)=X
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to identify and explain the various ways to find information that determines the audience of a project.
Content Focus	Purpose, audience, goals, niche, target market, customer base, age, location, gender, income level, education level, marital or family status, occupation, ethnic background
Content Limits	Student will know how to find the audience and accurately apply strategies to that market.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Short Answer: In 2-3 complete sentences explain what is an audience analysis? Audience analysis is gathering and interpreting information about people who may use the product to help create a usable product. Rubric: 2 points: Student will completely and thoroughly explain audience analysis in 2-3 complete sentences. 1 point: Student will partially explain audience analysis in 1-2 complete sentences. 0 points: Student did not answer correctly or did not attempt.

Standard	30.0 Demonstrate proficiency in digital imaging—The student will be able to:
Benchmark	30.02 Scan multiple documents.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=X
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to attach a scanner and scan multiple documents.
Content Focus	Scanner, driver, USB cord, software, file extensions, documents
Content Limits	Student will scan many documents into one file with or without a feeder.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: What is the purpose of Optical Character Recognition (OCR)? a. to scan all existing records b. a way to make an online portfolio c. keep the document imaging operational when the power is out d. a method of encoding text so they can be scanned and the content edited Correct answer: d

Standard	30.0 Demonstrate proficiency in digital imaging—The student will be able to:
Benchmark	30.03 Crop and scale photographs electronically using a scanner.
Item Types (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to change the size of objects scanned prior to saving.
Content Focus	Crop, scale, file extensions, software, handles
Content Limits	Student will understand how to change the size of objects scanned prior to saving.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: What is one purpose of having scanner software? a. add borders b. make color adjustments c. make prints d. scale photographs Correct answer: d

Standard	30.0 Demonstrate proficiency in digital imaging—The student will be able to:
Benchmark	30.04 Apply the use of proper resolution and screen values (e.g., ppi, lpi, dpi in documents).
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	High
Benchmark Clarification	The student will be able to understand screen resolution and choose the correct resolution for the task at hand.
Content Focus	Resolution, pixels, ppi, lpi, dpi in documents, resolution needs for various applications such as but not limited to printing, web design, desktop publishing, etc.
Content Limits	Apply the best resolution to the graphic/document for its intended purpose.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: Increasing the sampling frequency increases what part of the file? a. brightness resolution b. contrast resolution c. frequency resolution d. spatial resolution Correct answer: c

Standard	30.0 Demonstrate proficiency in digital imaging—The student will be able to:
Benchmark	30.05 Produce electronically retouched photographs using tones, hues, and values.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=X
Cognitive Complexity Level	High
Benchmark Clarification	The student will be able to enhance photographs using various color adjustments.
Content Focus	Tones, hues, and values, adjustments, retouching, enhancements, saturation
Content Limits	Items should include more advanced editing than crop, scale and auto color.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: What image adjustment tool uses a histogram display to alter an image? a. curves b. exposure c. levels d. vibrance Correct answer: c

Standard	30.0 Demonstrate proficiency in digital imaging—The student will be able to:
Benchmark	30.07 Demonstrate proficiency in saving documents to various storage media (e.g. locally, CD, DVD, USB)
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to save documents and where the documents are being stored.
Content Focus	My Documents, local drive, shared drive, CD, DVD, USB, external hard drive
Content Limits	Student should know how to navigate the computer and peripherals to save/store in specific places.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: Most programs automatically assume you want to save and open files in the documents folder. Where can the default location be changed? a. application preferences b. computer preferences c. control panel d. finder window Correct answer: a

Standard	31.0 Demonstrate proficiency in multimedia presentation—The student will be able to:
Benchmark	31.02 Incorporate audio and video into a presentation
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=X
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will be able to import and set controls of audio and video into a multimedia presentation.
Content Focus	Audio, video, file extensions, import, insert, control, format, playback, loop
Content Limits	Student will know how to set video and audio to play for a specified time, on click, automatically, continuously
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: If an audio track is supposed to play through the whole presentation but is not long enough, how do you make it play through the entire presentation? a. Make the song longer in another software. b. Copy and paste the music file where it ends. c. Insert once and choose loop in the playback menu. d. Play only as long as the audio and then add something else. Correct answer: c

Standard	31.0 Demonstrate proficiency in multimedia presentation—The student will be able to:
Benchmark	31.03 Demonstrate proficiency using 2D and 3D animation and effects
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will understand and be able to use 2D and 3D animation and effects.
Content Focus	2D, 3D, animation, drawing, sketching, frame rate, environment, realistic, texture, lighting, rotation, position, angle, modeling, texturing, CGI, rendering
Content Limits	Student should know the difference between 2D and 3D animation. Use of light, angle, background, frames per second to enhance. Student should know how to add texture, shading, reflection.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: What term describes artwork or animation created with computers can apply to both 2D and 3D renderings? a. after effects b. CGI c. CIG c. Flash Correct answer: b

Standard	44.0 Demonstrate promotion applications for the selected marketing industry--The student will be able to:
Benchmark	44.01 Identify types of promotion used in the industry.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)= (ER)=X
Cognitive Complexity Level	Moderate
Benchmark Clarification	The student will understand and identify a variety of promotion types.
Content Focus	Print, social media, radio, tv, advertising, branding, communication, promotional, editorial, publication, illustration, packaging
Content Limits	Items should be limited to basic promotion types, how to determine the need for different types of promotions, what are the components of the promotion such as software, expertise, marketing needs etc.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Short Answer: There are seven methods of promotion. In 1-2 sentences explain what are three methods of promotion? Three types of promotion are personal selling, direct marketing and general advertising. Rubric: 2 points: Student will completely and thoroughly explain at least 3 methods in complete sentences. 1 point: Student will completely and thoroughly explain at least 2 methods and may or may not have complete sentences. 0 points: Student did not answer correctly or did not attempt.

Standard	44.0 Demonstrate promotion applications for the selected marketing industry--The student will be able to:
Benchmark	44.03 Use advertising guidelines to design appropriate media sample ads, i.e., print, radio, television, Internet, and others.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=X
Cognitive Complexity Level	High
Benchmark Clarification	The student will understand the principles and guidelines of marketing as set by the industry such as the ESRB.
Content focus	Regulations, print, radio, television, internet, advertising types, morals, ethics, principles, guidelines
Content limits	The student will know the scope of appropriate principles and guidelines such as accurately reflect the product, responsibilities to not glamourize the product or mislead the consumer, limits of violence, sex, alcohol, offensive language and/or religion.
Stimulus attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: In what shape should a print ad be designed? a. parallelogram b. triangle c. square d. Z shape Correct answer: b

Standard	44.0 Demonstrate promotion applications for the selected marketing industry--The student will be able to:
Benchmark	44.04 Use design principles in preparing promotional messages
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=X
Cognitive Complexity Level	High
Benchmark Clarification	The student will understand the design principles and how they apply to marketing and promotional products.
Content Focus	Balance, contrast, emphasis, movement, pattern, rhythm, unity, design principles, purpose, message
Content Limits	Items may access the use of design principles such as balance, contrast, emphasis, movement, pattern, rhythm, unity in a product.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: When creating an email marketing plan, what is not a recommended design? a. background images b. maximum 250 words c. HTML not allowed in the subject line d. most important words should appear in the first 5-7 words Correct answer: a

Standard	44.0 Demonstrate promotion applications for the selected marketing industry--The student will be able to:
Benchmark	44.05 Write a promotional message to appeal to a target market.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=X
Cognitive Complexity Level	High
Benchmark Clarification	The student will understand how to design promotional and/or marketing pieces effectively using information about the target market.
Content Focus	Demographics, purpose, audience, focus groups, segment, geographic
Content Limits	Items may access the use of target audience information in creating promotional and/or marketing products.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None Specified
Sample Item	Multiple Choice: You need to write a postcard ad to attract children for an upcoming summer camp. Which element would NOT be used? a. all pertinent information b. bold headline c. one big idea d. provide a clear call to action Correct answer: c