

Indiana CTE

# Digital Design

## Digital Design

### I Principles of Digital Design 7140

- a Domain: Design Fundamentals 7140.D1
  - 1 Define and apply design process theory. 7140.D1.1
  - 2 Create compositions, artwork, illustrations, layouts, designs, etc. that demonstrate the effective use of the elements and principles of design. 7140.D1.2
  - 3 Demonstrate creative and visual problem-solving skills through exercises and/or projects utilizing vector/raster-based graphics programs and/or other traditional processes. 7140.D1.3
  - 4 Generate ideas, notes and thumbnails manually or digitally. 7140.D1.4
  - 5 Create oral or written justification using appropriate design vocabulary. 7140.D1.5
  - 6 Engage in critical peer evaluation. 7140.D1.6
- b Domain: Photography 7140.D2
  - 1 Demonstrate an ability to operate a camera using manual controls. 7140.D2.1
  - 2 Measure incidental and reflective light for a subject and determine the proper camera settings. 7140.D2.2
  - 3 Demonstrate printing equipment to produce properly exposed and processed prints. 7140.D2.3
  - 4 Learn and employ methods of image correction. 7140.D2.4
  - 5 Produce photographs which demonstrate an ability to control focus in a variety of situations. 7140.D2.5
  - 6 Demonstrate an understanding of depth of field. 7140.D2.6
  - 7 Demonstrate an understanding of capturing and freezing motion. 7140.D2.7
  - 8 Understand how to apply the theory of equivalent exposures and bracketing. 7140.D2.8
  - 9 Demonstrate the effects of time of day on the qualities and direction of available light. 7140.D2.9
  - 10 Demonstrate an understanding of photographic filters and how they work. 7140.D2.10
  - 11 Demonstrate an understanding of photographic composition and design. 7140.D2.11
  - 12 Produce photographs that exhibit conceptual thinking ability. 7140.D2.12

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## II Digital Design Graphics 7141

### a Domain: Vector Graphics and Publication Design 7141.D1

- 1 Navigate within the computer's operating environment. 7141.D1.1
- 2 Demonstrate a working knowledge of the hardware components and peripherals. 7141.D1.2
- 3 Execute fundamental type formatting and editing. 7141.D1.3
- 4 Develop the critical basics of effective page layout software operation. 7141.D1.4
- 5 Utilize illustration tools to manipulate paths and anchor points. 7141.D1.5
- 6 Recognize graphic file formats and appropriate uses. 7141.D1.6

### b Domain: Raster Graphics 7141.D2

- 1 Operate image input devices. 7141.D2.1
- 2 Explain the physical properties of light and the basic laws of photographic optics (how light behaves). 7141.D2.2
- 3 Explain the differences between various graphic file formats, image resolution, and proper light levels. 7141.D2.3
- 4 Create images that use the principles/fundamentals of design. 7141.D2.4
- 5 Demonstrate the ability to solve communication design problems using imaging. 7141.D2.5
- 6 Develop hand/computer-imaging skills. 7141.D2.6
- 7 Apply the rules of effective typography using hand and/or computer skills. 7141.D2.7
- 8 Demonstrate a variety of imaging methods in application to class projects. 7141.D2.8
- 9 Be able to assess your work and others constructively and effectively. 7141.D2.9

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### III Graphic Design and Layout 5550

#### a Domain: Typography 5550.D1

- 1 Describe, appreciate and apply the history and development of type and typefaces. 5550.D1.1
- 2 Describe and use typographic terminology. 5550.D1.2
- 3 Create various design projects/layouts that demonstrate the ability to solve communication design problems using typography. 5550.D1.3
- 4 Be aware of the design (typefaces, hand lettering, font creation) options available, and fully utilize the unique potential of the typography. 5550.D1.4
- 5 Develop an attention to detail to recognize typographic rules and aesthetics. 5550.D1.5
- 6 Evaluate your and peer work critically. 5550.D1.6

#### b Domain: Graphic Design and Layout 5550.D2

- 1 Create portfolio quality projects by applying the design process. 5550.D2.1
- 2 Develop marketing concepts by completing creative briefs based on global, corporate and social applications and target audience. 5550.D2.2
- 3 Visualize ideas by means of research, thumbnail sketches, and developmental drafts. 5550.D2.3
- 4 Identify print reproduction criteria necessary for various media. 5550.D2.4
- 5 Adhere to a production schedule to meet deadlines in an efficient and professional manner. 5550.D2.5
- 6 Present and provide feedback to peers, clients, faculty, or advisors. 5550.D2.6

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## **IV Interactive Media Design 7138**

### **a Domain: Web and Social Media 7138.D1**

- 1 Discuss the current online/interactive environment and the unique design challenges this media (websites, mobile, and social media) presents. 7138.D1.1
- 2 Identify and apply effective design solutions based on content. 7138.D1.2
- 3 Understand how User Experience (UX) impacts online/interactive media. 7138.D1.3
- 4 Discuss the importance of proper research, brainstorming and thumbnails. 7138.D1.4
- 5 Analyze and optimize graphic files for web delivery. 7138.D1.5
- 6 Evaluate the aesthetics of interactive media such as websites, social media, mobile design. 7138.D1.6
- 7 Recognize the importance and power of social media in maintaining content. 7138.D1.7
- 8 Identify current and emerging social media trends. 7138.D1.8
- 9 Understand Search Engine Optimization (SEO) theory and current practices. 7138.D1.9
- 10 Apply professional quality standards in the role of blogging, social networking, dynamic media, and the mobile web to build the brand of a company, person, or organization 7138.D1.10
- 11 Implement interactive media such as websites, social media mobile design using current editing software. 7138.D1.11
- 12 Manipulate and optimize images for web utilization with industry-standard graphic software. 7138.D1.12
- 13 Understand web hosting options. 7138.D1.13

### **b Domain: Video and Sound 7138.D2**

- 1 List and compare various formats for video recording, storage and sequencing. 7138.D2.1
- 2 Describe the production process and define the responsibilities of production team members. 7138.D2.2
- 3 Learn the basics of planning, shooting, editing and post-producing video. 7138.D2.3
- 4 Analyze videos for technical quality and aesthetic principles. 7138.D2.4
- 5 Demonstrate competent usage and handling of video equipment. 7138.D2.5
- 6 Incorporate effective visual aesthetics in capturing video content. 7138.D2.6
- 7 Compile and edit video content into creative and technically successful projects. 7138.D2.7

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## **V Professional Photography & Videography** 7136

### **a** Domain: Commercial Photography 7136.D1

- 1 Apply zone system to black and white photography. 7136.D1.1
- 2 Effectively execute assignments starting with pre-visualization and ending with a properly exposed negative and print. 7136.D1.2
- 3 Demonstrate ability to use filters with the camera. 7136.D1.3
- 4 Demonstrate the ability to make decisions about depth of field and shutter speeds. 7136.D1.4
- 5 Demonstrate and refine ability to compose effectively. 7136.D1.5
- 6 Demonstrate advanced tonal controls, image adjustments, as well as various digital workflow processes to produce high quality digital prints. 7136.D1.6
- 7 Demonstrate the critical and aesthetic skills necessary to effectively assess photographic images. 7136.D1.7
- 8 Present orally a project to your peers, clients, faculty, or advisors. 7136.D1.8

### **b** Domain: Video and Sound 7136.D2

- 1 List and compare various formats for video recording, storage, and sequencing. 7136.D2.1
- 2 Describe the production process and define the responsibilities of production team members. 7136.D2.2
- 3 Learn the basics of planning, shooting, editing and post-producing video. 7136.D2.3
- 4 Analyze videos for technical quality and aesthetic principles. 7136.D2.4
- 5 Demonstrate competent usage and handling of video equipment. 7136.D2.5
- 6 Incorporate effective visual aesthetics in capturing video content. 7136.D2.6
- 7 Compile and edit video content into creative and technically successful project 7136.D2.7

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## **VI Digital Design Capstone** 7246

- a** Domain: User Experience/User Interface 7246.D1
  - 1 Describe, appreciate, and apply the history, development, and standards of experience/interface design. 7246.D1.1
  - 2 Describe and use UX/UI terminology. 7246.D1.2
  - 3 Demonstrate knowledge of the standards, terms, and applications of UX/UI. 7246.D1.3
  - 4 Demonstrate an understanding of the various methods used in this field. 7246.D1.4
  - 5 Through various assignments communicate your research, analysis, scenarios, etc. which show comprehension of the end users' needs. 7246.D1.5
  - 6 Develop an awareness of all the interrelated factors that impact user experience (ADA compliance, mobile, user centered design, societal factors, etc.). 7246.D1.6
  - 7 Demonstrate sound user experience design practice relative to the enhancement of communication and visual appeal. 7246.D1.7
  - 8 Evaluate your peer and professional work critically. 7246.D1.8
- b** Domain: Production Editing I 7246.D2
  - 1 Ingest digital footage into an editing system. 7246.D2.1
  - 2 Explore various aspects for the editing process. 7246.D2.2
  - 3 Understand and use appropriate editing styles. 7246.D2.3
  - 4 Create and refine a rough cut. 7246.D2.4
  - 5 Produce projects using a non-linear editing system. 7246.D2.5
  - 6 Integrate audio and video within a project. 7246.D2.6
  - 7 Synchronize multiple concurrent video angles taken from a multi-camera shoot. 7246.D2.7
  - 8 Experiment with special effects, masking, and matting. 7246.D2.8
  - 9 Produce projects of varying lengths and output mediums. 7246.D2.9
  - 10 Edit projects down to a specific time frame. 7246.D2.10
  - 11 Present orally a project to your peers, clients, faculty, or advisors 7246.D2.11
- c** Domain: Motion Graphics 7246.D3
  - 1 Develop advanced creative interfaces for use in multimedia projects. 7246.D3.1
  - 2 Integrate the principles of good multimedia design with a strong focus on the aesthetic component including research, brainstorming, and storyboarding. 7246.D3.2
  - 3 Synchronize animation and sound. 7246.D3.3
  - 4 Incorporate various mediums, including sound, images, audio, etc. 7246.D3.4

- 5 Describe the different roles of a multimedia producer within the industry. 7246.D3.5
  - 6 Analyze the use of multimedia as a marketing tool. 7246.D3.6
  - 7 Appraise and integrate different content and software to achieve one product. 7246.D3.7
  - 8 Use basic programming skills to add functionality to a project. 7246.D3.8
  - 9 Implement usability and functionality testing processes. 7246.D3.9
- d Domain: 3D Rendering and Animation 7246.D4
- 1 Apply the ability to employ available 3D rendering and animation software packages. 7246.D4.1
  - 2 Construct and render 3D models and textures for use in static and dynamic simulated environments. 7246.D4.2
  - 3 Utilize constructed environments and models in various animations techniques. 7246.D4.3
  - 4 Explain the history of computer animation. 7246.D4.4
  - 5 Evaluate the possibilities of computer animation and how it is utilized in a variety of industries today. 7246.D4.5
- e Domain: Web Design 7246.D5
- 1 Explain Information Architecture (IA) how interactive media design affects user experience (UX), and how that translates to a successful user interface (UI). 7246.D5.1
  - 2 Describe and apply effective interactive media design processes—including research, web project definition, organization, structure, process, and interaction. 7246.D5.2
  - 3 Identify and apply effective design solutions based on content. 7246.D5.3
  - 4 Discuss the importance of proper research, brainstorming and thumbnails, and wireframing. 7246.D5.4
  - 5 Evaluate the aesthetics of interactive design pertaining to emerging trends. 7246.D5.5
  - 6 Discuss the history of interactive design and the relationship they have with interactive design today 7246.D5.6
  - 7 Discuss design principles (color, layout, typography) as they apply to interactive design. 7246.D5.7
  - 8 Construct web pages using standards-compliant HTML5 and CSS3 that successfully passes validation tests of theW3C. 7246.D5.8
  - 9 Discuss the use of helper technologies such as CSS frameworks, and when and why to use them. 7246.D5.9
  - 10 Implement a simple JavaScript plugin to add dynamics to a website. W311. Create a final static website meeting the needs of a client. 7246.D5.10