

TRAINING PROGRAM OF INSTRUCTION (TPI)
FOR
DINFOS-BMIC
BASIC MULTIMEDIA ILLUSTRATOR COURSE



Commandant Defense Information School
Supersedes TPI Dated: 23 May 2005



**BASIC MULTIMEDIA ILLUSTRATOR COURSE
TRAINING PROGRAM of INSTRUCTION**

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DEPARTMENT OF DEFENSE
Defense Information School
6500 Mapes Road
Fort George G. Meade, MD 20755-5620

August 11, 2010

MEMORANDUM FOR DINFOS COMMANDANT

SUBJECT: Summary of changes to Basic Multimedia Illustrator Course (BMIC)

Below is a summary of changes to the current TPI for BMIC. This request is based on decisions made at the IPR held 19 April 2010. These changes will be implemented beginning FY 2011 and are listed below.

- Specialty Awarded: The US Navy added **NEC 8151, Graphics Illustrator**
- Prerequisites:
 - USN – change Enlisted E1-E6 to E1-E7
 - USA – add statement: Required to be a US citizen effective 1 October 2010 for all soldiers.
- USA – remove TPFN 001-001-008 Prepare tactical graphics overlay (Army Specific)

Course Impact: These changes have no impact on the resources or length of the course.

POC for this action is Mrs. Mary O'Shea, Course Developer, DINFOS, 301-677-2038,
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Mary O'Shea
Course Developer
Visual Communications Department

1st Endorsement, CG

GARY L. KECK
Colonel, U.S. Army
Commandant

**BASIC MULTIMEDIA ILLUSTRATOR COURSE
TRAINING PROGRAM of INSTRUCTION**

Preface

TRAINING PROGRAM OF INSTRUCTION FILE NUMBER: DINFOS-BMIC

TITLE: Basic Multimedia Illustrator Course

TRAINING LOCATION: Fort George G. Meade, Maryland

SPECIALTY AWARDED: USA - 25M

PURPOSE: To provide students the skills required to perform and fulfill the duties and responsibilities of the graphic/multimedia career field.

COURSE DESCRIPTION: The scope of training of this course provides military and selected civilian personnel with training that will develop the basic skills of manual illustration and design, including application of the fundamentals of realistic drawing; principles of design and layout; fundamentals of color theory; color media; perspective; and fundamentals of typography. Students learn about safety and security procedures in a graphics shop, preparation of imagery for accessioning as well as archiving. All students learn to operate a computer to use graphic design software, including vector, raster-based/image editing, as well as page layout, presentation, web authoring and animation software to conceive and create visual products for use in a broad range of areas. Industry standard software is utilized to help students learn to create everything from logos and posters to page layouts for print production and designs for web sites. Students develop a strong foundation in design in order to produce traditional 2-D formats for traditional size output, considerations for large format output, as well as HTML scripting, designing graphics for the screen, Web site development using current applications, operating systems, network technology, and web animation.

Training also includes using electronic scanning to convert analog products for use in digital graphic and multimedia design, as well as basics of color management in the digital design and production process. Students will output hard copy product to black and white and color printers, as well as large format color printers. Students create presentations, learn to use digital audio and video software, create a web site, create animation and produce an interactive multimedia project.

PREREQUISITES:

USA - Enlisted E1-E6. 91ST & 93EL (Min) Normal color vision. Moderately heavy physical demands. High school/GED equivalent, Basic training. Eligible for SECRET security clearance.

USN - Enlisted E1-E6 Mass Communication Specialist; civilian GS5 – GS11, 1200 series. Distance visual acuity correctable to 20/20, normal color vision. Eligible for SECRET security clearance.

International Students - International students attending this course must have an English Comprehension Level (ECL) of 80; suggest the individual have at least one year of experience in computer operations to include the following: computer setup, mouse control, use of peripheral devices, file system navigation, file management, basic file creation, software menus and comparable charts in the Windows environment. Must have distance visual acuity correctable to 20/20, and normal color vision.

Interagency: Students pay-grade, duty position description, and selection in accordance with specific agency guidance, policy and procedures.

CLASS SIZE:

MAXIMUM	30
MINIMUM	16
ANNUAL COURSE CAPACITY	180

COURSE LENGTH: 66 Training Days

ACADEMIC HOURS:	516 Hrs
ADMINISTRATIVE HOURS:	12 Hrs
TOTAL COURSE HOURS:	528 Hrs

INSTRUCTOR CONTACT HOURS: 1,970 Hrs

TYPE/METHOD OF INSTRUCTION:

Administrative (AD)	12 Hrs
Lecture (L)	41 Hrs
Demonstration (D)	79 Hrs
Computer-Aided Instruction (CAI)	17 Hrs
Performance Exercise (PE)	262 Hrs
Examination	
Performance (EP)	105 Hrs
Written (EW)	12 Hrs

TRAINING START DATE: June 2010

ENVIRONMENTAL IMPACT: None. DOD policy was followed to assess the environmental impact.

MANPOWER: The Inter-service Training Review Organization (ITRO) formula was used to determine the number of instructors required.

EQUIPMENT and FACILITIES: The Course Design Resource Estimate (CDRE) contains this information.

TRAINING DEVELOPMENT PROPONENT: Defense Information School, Course Development Department. (301) 677 – 3273; DSN 622 3273

Functional Area 1 – Overview
ILLUSTRATION AND DESIGN

Total FA Hours: 169

Terminal Training Outcome: The overall objective of functional area one in this course is to prepare the student to perform in a graphics shop environment and to develop their abilities to think conceptually within the creative process. Students develop a solid foundation in art concepts, drawing techniques, design principles, and color theory. They are challenged to solve basic graphic problems through intense practical projects using the latest in technologies. Functional area one will provide the student with the basic composition techniques that they will later apply in digital design of functional area two. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all performance and written examinations.

UNIT 001: Realistic Drawing (principles of realistic drawing)

- 001 Identify safety hazards within a graphics shop.
- 002 Identify security (procedures, precautions and levels of security).
- 003 Identify characteristics of good customer relations.
- 004 Define basic terms about realistic drawing.
- 005 Apply the principles of realistic drawing using form, proportion (grid, rectangle, and plumbing), contour and shading.
- 006 Apply the principles of perspective.
- 007 Produce combat documentation (reference sketches)
- 008 Prepare tactical graphic overlays (Army specific)
- 009 Identify policies and regulations for VI products.
- 010 Prepare VI products for accessioning.
- 011 Measurement and feedback (Midterm).

UNIT 002: Typography (fundamentals of typography)

- 001 Identify the anatomy and categories of type.

UNIT 003: Layout and Design

- 001 Define basic terms of layout and design
- 001 Identify elements of design
- 002 Produce a design project
- 003 Produce a layout project
- 004 Produce a layout and design project
- 005 Measurement and feedback (FA1)

INSTRUCTIONAL TYPE AND HOURS: 14L; 19D; 77PE; 55EP; 4EW

**FUNCTIONAL AREA 1
ILLUSTRATION AND DESIGN**

TPFN: DINFOS-BMIC-001-001-

UNIT TITLE: Realistic Drawing (principles of realistic drawing)

TPFN HOURS AND TYPE: 10L; 10D; 36PE; 22EP; 2EW

TPFN TOTAL HOURS: 80

PREREQUISITE TPFN: N/A

TASK (S):

- 001 Identify safety hazards within a graphics shop.
- 002 Identify security (procedures, precautions and levels of security).
- 003 Identify characteristics of good customer relations.
- 004 Define basic terms about realistic drawing.
- 005 Apply the principles of realistic drawing using form, proportion (grid, rectangle, and plumbing), contour and shading.
- 006 Apply the principles of perspective.
- 007 Produce combat documentation (reference sketches)
- 008 Prepare tactical graphic overlays (Army specific)
- 009 Identify policies and regulations for VI products.
- 010 Prepare VI products for accessioning.
- 011 Measurement and feedback (Midterm).

SUMMARY OF INSTRUCTION: During informal lecture, students learn terms, definitions, and procedures regarding safety and security within a graphics shop. Students discuss how to develop good customer relations and review work requests, and identify policies and regulations for VI products. Students will prepare VI products for accessioning, using proper captions and Visual Information Record Identification Number (VIRIN). After an overview of the principles of realistic drawing, students use basic drawing tools and equipment to create illustrations applying form, proportion, contour, shading and perspective, using methods such as grid, rectangle, and plumbing. Students experience a Field Training Exercise where they produce combat documentation and prepare tactical graphic overlays (Army specific). An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all performance and written examinations.

REFERENCES:

- National Safety Council. (2008). *Injury Facts* (2008 ed.). Injury Facts Family. Itasca, IL : National Safety Council. (Original work published 1995) <http://www.nsc.org/resources/injuryfacts.aspx>
- DINFOS VCOMM-BMIC Student Guide
- DoD Instruction 6055.1 – Safety; DLAI 4145.11;
- TM 38-410; NAVSUP Pub 573; Code of Federal Regulations Title 1910 1200, http://www.osha.gov/SLTC/etools/evacuation/portable_about.html#; http://www.stayingalive.ca/fire_extinguisher.html;
- DoD Guide to Marking Classified Documents – DoD 5200.1-PH; AR 530-1, Operations Security;
- Joint Pub 3-54; AR 380-5, Chapter 5 – Controlled Unclassified Information;
- Soldier's Manual and Trainer's Guide MOS 25M STP 11-25M13-SM-TG, Multimedia Illustrator – Appendix G;
- Illustrator Draftsman Volume 1 Equipment NAVEDTRA 12720;

FUNCTIONAL AREA 1 ILLUSTRATION AND DESIGN

- Army Correspondence Course Program Sub Course SSO530, Designing and Preparing Presentation Materials;
- Navy Customer Service Manual NAVEDTRA 14056;
- Illustrator Draftsman Volume 3, Executionable Practices NAVEDTRA 12722;
- *Drawing on the Right Side of the Brain* by Betty Edwards;
- *How to Draw What You See* by Rudy De Reyna; Illustrator Draftsman Volume 2, Standard Drafting Practices and Theory NAVEDTRA 12721;
- DoD Instruction 5040.6 Life cycle Management of DoD Visual Information, Attachment 4-DoD Imagery and Caption Style Guide (Chapter 2 – Still Image Captions and Chapter 4 – VIRIN);
- DoD Directive 5040.2 Visual Information;
- DoD 5040.6-M-2 Instructions for Handling Visual Information (VI) Material;
- US Copyright Act of 1976; www.copyright.gov;
- US Army FM 3-25.26; US Army FM 101-5-1.

INSTRUCTOR/STUDENT RATIO: 1:16(L, EW, EP); 1:8(D, PE)

SAFETY FACTORS: Injury hazard from sharp objects such as X-acto knives; electrical hazards such as frayed power cords, cracked or missing outlet covers, exposure to liquids or excessive moisture; and tripping hazard from cables and cords from computer systems. Use caution when operating electrical equipment and maintain in accordance with manufacturer's specifications; tools should be stored properly in the taboret and area is clean and clear of obstructions. Conduct a Risk Assessment and safety briefing prior to FTX.

**FUNCTIONAL AREA 1
ILLUSTRATION AND DESIGN**

TPFN: DINFOS-BMIC-001-002-

UNIT TITLE: Typography (fundamentals of typography)

TPFN HOURS AND TYPE: 1L

TPFN TOTAL HOURS: 1

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK (S):

001 Identify the anatomy and categories of type.

SUMMARY OF INSTRUCTION: During an informal lecture, students are introduced to the fundamentals and principles of typography. Students learn the anatomy of type, categories of type, and the fundamentals of text layout, including special design issues of text in foreign languages. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all written examinations.

REFERENCES:

- Study Guide; *Lithographer's Manual (9th Ed)*; *Looking Good in Print* by Roger C. Parker; *The Non-Designer's Design and Type Book* by Robin Williams.

INSTRUCTOR/STUDENT RATIO: 1:16(L)

SAFETY FACTORS: Injury hazard from sharp objects such as X-acto knives; electrical hazards such as frayed power cords, cracked or missing outlet covers, exposure to liquids or excessive moisture; and tripping hazard from cables and cords from computer systems. Use caution when operating electrical equipment and maintain in accordance with manufacturer's specifications; tools should be stored properly in the taboret and area is clean and clear of obstructions.

**FUNCTIONAL AREA 1
ILLUSTRATION AND DESIGN**

TPFN: DINFOS-BMIC-001-003-

UNIT TITLE: Layout and Design

TPFN HOURS AND TYPE: 3L; 9D; 41PE; 33EP; 2EW

TPFN TOTAL HOURS: 88

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK (S):

- 001 Define basic terms of layout and design
- 002 Identify elements of design
- 003 Produce a design project
- 004 Produce a layout project
- 005 Produce a layout and design project
- 006 Measurement and feedback (FA1)

SUMMARY OF INSTRUCTION: During informal lecture, students learn basic terms and definitions of the elements and principles of layout and design. Color is introduced as an integral element of design and is emphasized through out the course of instruction. Students apply principles of design and layout to create thumbnail sketches that bring about visual solutions to formal problems of concept and elemental organization. Students develop roughs, apply principles of color theory and color harmony, and refine their layout. A finished comprehensive is rendered using pre-determined media techniques; students complete both practice and performance exercises in design, layout and design and layout projects. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on both the written and performance examinations.

REFERENCES:

- Soldier's Manual and Trainer's Guide MOS 25M STP 11-25M13-SM-TG, Multimedia Illustrator;
- Illustrator Draftsman Manual DM NAVEDTRA 10472;
- Applicable manufacturers' manuals. *Making a Good Layout* by Siebert and Ballard;
- *Graphic Design School*, by Swann; *Visual Forces – An Introduction to Design* by Martinez and Buck; *Lithographer's Manual (9th Ed)*;
- *Looking Good in Print* by Roger C. Parker;
- *The Non-Designer's Design and Type Book* by Robin Williams;
- Video Library: *They Drew Fire – Combat Artist of WWII*; *Daniel Greene - Pastel Portrait* – Lefranc & Bougeouis;
- *Color Theory Made Really Easy* - Sandra McFall Angelo;
- *The Dance of Watercolor: Beginners & Beyond with Julie Cohn*; *Basic Watercolor* – Burt Silverman;
- *New Techniques in Watercolor* – Guy Corriero

INSTRUCTOR/STUDENT RATIO: 1:16 (L, EW, EP); 1:8 (D, PE)

SAFETY FACTORS: Injury hazard from sharp objects such as X-acto knives; electrical hazards such as frayed power cords, cracked or missing outlet covers, exposure to liquids or excessive moisture; and tripping hazard from cables and cords from computer systems. Use caution when operating electrical equipment and maintain in accordance with manufacturer's specifications; tools should be stored properly in the taboret and area is clean and clear of obstructions.

Functional Area 2 – Overview
DIGITAL GRAPHIC DESIGN

Total FA Hours: 176

Terminal Training Outcome: Functional area two builds on the basic drawing knowledge, skills and abilities students developed in functional area one teaching them to apply the same skills in a digital environment. Students explore digital and multimedia foundations and learn the differences in applied digital art such as vector and raster and how to successfully implement these techniques in a real world scenario. They explore the possibilities in digital art manipulation and apply them in digital art layouts and designs. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all performance and written examinations.

UNIT 001: Computer Fundamentals

- 001 Define basic terms about computer hardware and software.
- 002 Perform computer systems and file management.

UNIT 002: Digital Page Layout and Design

- 001 Identify the fundamentals of digital color theory and color harmony.
- 002 Identify elements of digital page layout and design.
- 003 Identify methods of printing reproduction and general information about service bureaus.

UNIT 003: Vector-based graphic design

- 001 Define basic terms about vector-based graphic design.
- 002 Use vector-based graphic design software.
- 003 Use a color printer and plotter.
- 004 Use a scanner to import analog images.
- 005 Interim measurement and feedback.

UNIT 004: Image Editing/Raster-based Design

- 001 Define basic terms about raster-based graphic design.
- 002 Use raster-based graphic design software.
- 003 Apply image/data compression (lossy/lossless).

UNIT 005: Desktop Publishing and Digital Graphic Design Project

- 001 Define basic terms about desktop publishing.
- 002 Use elements of digital page layout and design.
- 003 Apply vector and raster techniques to create a hard copy desktop publishing project.
- 004 Measurement and feedback.

INSTRUCTIONAL TYPE AND HOURS: 15 L; 31 D; 91 PE, 4EW, 27EP, 8CAI

**FUNCTIONAL AREA 2
DIGITAL GRAPHIC DESIGN**

TPFN: DINFOS-BMIC-002-001-

UNIT TITLE: Computer Fundamentals

TPFN HOURS AND TYPE: 2L, 2D, 2 PE

TPFN TOTAL HOURS: 6

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK (S):

- 001 Define basic terms about computer hardware and software.
- 002 Perform computer systems and file management.

SUMMARY OF INSTRUCTION: During informal lecture, students will learn basic terms and definitions about computer hardware and software, computer setup, and system configuration. Through demonstration and practical exercise, students gain practical knowledge about a computer operating system, local area networks, file management and digital color management. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent of graded items on the written examination.

REFERENCES:

Student Guide;
How Computers Work by Ron White;
applicable manufacturers' manuals.

INSTRUCTOR/STUDENT RATIO: 1:16(L); 1:8(D/PE)

SAFETY FACTORS: Electrical hazard from computer systems connections; tripping hazard from cables, cords and a subdued lighted environment; Carpal Tunnel Syndrome possibility from the keyboard and mouse use; back injury due to poor sitting posture.

**FUNCTIONAL AREA 2
DIGITAL GRAPHIC DESIGN**

TPFN: DINFOS-BMIC-002-002-

UNIT TITLE: Digital Page Layout and Design

TPFN HOURS AND TYPE: 8L; 1 PE

TPFN TOTAL HOURS: 9

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK (S):

- 001 Identify the fundamentals of digital color theory and color harmony.
- 002 Identify elements of digital page layout and design.
- 003 Identify methods of printing reproduction and general information about service bureaus.

SUMMARY OF INSTRUCTION: During informal lecture, students receive information on the fundamentals of digital color theory, including color shifts and color correction, digital color harmony, color management, digital page layout, printing terms and methods of printing reproduction and service bureaus. These tasks will be used and graded throughout the rest of the course of instruction. Grades will be given at the end of each lesson performance exercise. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on both written and performance examinations.

REFERENCES:

- Student Guide; *Lithographer's Manual (9th Ed)*; *Looking Good in Print* by Roger C. Parker;
- *The Non-Designer's Design and Type Book* by Robin Williams;
- *Color Confidence (2nd Ed)* by Tim Grey;
- *Print Publishing Guide* by Adobe Press;
- *The Graphic Designer's Digital Toolkit* by Allan Wood;
- applicable manufacturer's manuals;
- *Illustrator Draftsman Vol 2*; SECNAVINST 5870.5 (Copyright);
- Government Printing and Binding Regulations (JCP No. 26); MCO P5600.31 (USMC Publications and Printing Regulations);
- NAVEDTRA 14056 Navy Customer Service Manual.

INSTRUCTOR/STUDENT RATIO: 1:16(L); 1:8(PE)

SAFETY FACTORS: Electrical hazard from computer systems connections; tripping hazard from cables, cords and a subdued lighted environment; Carpal Tunnel Syndrome possibility from the keyboard and mouse use; back injury due to poor sitting posture.

**FUNCTIONAL AREA 2
DIGITAL GRAPHIC DESIGN**

TPFN: DINFOS-BMIC-002-003-

UNIT TITLE: Vector-based graphic design

TPFN HOURS AND TYPE: 1L; 8D; 8CAI; 28PE; 5EP; 2EW

TPFN TOTAL HOURS: 52

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK (S):

- 001 Define basic terms about vector-based graphic design.
- 002 Use vector-based graphic design software.
- 003 Use a color printer and plotter.
- 004 Use a scanner to import analog images.
- 005 Interim measurement and feedback.

SUMMARY OF INSTRUCTION: During informal lecture, students learn basic terms and definitions about vector-based graphic design software. Through demonstration and performance exercise, students use vector-based graphic design, creating an illustration project using vector graphics software and a color printer. Application of basic layout, design fundamentals, color theory and output medium are emphasized in all tasks. Students will use a Computer Aided Instruction (CAI), self-paced module during the course of instruction. A performance examination covering the above tasks will be given at the end of this block of instruction. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all written and performance examinations.

REFERENCES:

- Student Guide; *Lithographer's Manual (9th Ed)*;
- *Digital Media Tools* by Nigel Chapman and Jenny Chapman;
- *Adobe Illustrator Classroom in a Book* by Adobe Press;
- Soldier's Manual and Trainer's Guide MOS 25M STP 11-25M13-SM-TG, Multimedia Illustrator;
- Illustrator Draftsman Manual (DM) NAVEDTRA 10472;
- *Adobe Print Publishing Guide*, Adobe Illustrator tutorials;
- *Adobe Photoshop Classroom in a Book* by Adobe Press;
- HP Scanjet User's Manual; *Start With a Scan* by Janet Ashford;
- DoD Instruction 5040.5 Alteration of Official DoD Imagery;
- *The Associated Press Stylebook* (Associated Press);
- applicable manufacturers' manuals.

INSTRUCTOR/STUDENT RATIO: 1:16(L, EW, EP); 1:8(D, CAI, PE)

SAFETY FACTORS: Electrical hazard from computer systems connections; tripping hazard from cables, cords and a subdued lighted environment; Carpal Tunnel Syndrome possibility from the keyboard and mouse use; back injury due to poor sitting posture.

**FUNCTIONAL AREA 2
DIGITAL GRAPHIC DESIGN**

TPFN: DINFOS-BMIC-002-004 -

UNIT TITLE: Image Editing/Raster-based Design

TPFN HOURS AND TYPE: 3L; 15D; 34PE; 9EP

TPFN TOTAL HOURS: 61

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK(S):

- 001 Define basic terms about raster-based graphic design.
- 002 Use raster-based graphic design software.
- 003 Apply image/data compression (lossy/lossless).

SUMMARY OF INSTRUCTION: During informal lecture, students learn basic terms and definitions of image ethics, image editing, and raster-based graphic design software, including color modes, color adjustments and file formats. Through a demonstration and performance exercise, students learn proper use of image/data compression techniques and use of raster-based design software for image editing and for raster-based graphic design. Students use raster-based design software to create multimedia products in both practice and performance exercises. Application of basic layout, design fundamentals, color theory and output medium are emphasized in all tasks. A performance examination covering the above tasks will be given at the end of this block of instruction. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all written and performance examinations.

REFERENCES:

- Student Guide; *Lithographer's Manual (9th Ed)*;
- *Digital Media Tools* by Nigel Chapman and Jenny Chapman;
- *Adobe Photoshop Classroom in a Book* by Adobe Press;
- HP Scanjet User's Manual; *Start With a Scan* by Janet Ashford;
- DoD Instruction 5040.5 Alteration of Official DoD Imagery;
- *The Associated Press Stylebook* (Associated Press);
- applicable manufacturer's manuals.

INSTRUCTOR/STUDENT RATIO: 1:16(L, EP); 1:8(D, D/PE, PE)

SAFETY FACTORS: Electrical hazard from computer systems connections; tripping hazard from cables, cords and a subdued lighted environment; Carpal Tunnel Syndrome possibility from the keyboard and mouse use; back injury due to poor sitting posture.

**FUNCTIONAL AREA 2
DIGITAL GRAPHIC DESIGN**

TPFNDINFOS-BMIC-002-005-

UNIT TITLE: Desktop Publishing and Digital Graphic Design Project

TPFN HOURS AND TYPE: 1L; 6D; 26PE; 13EP; 2EW

TPFN TOTAL HOURS: 48

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK (S):

- 001 Define basic terms about desktop publishing.
- 002 Use elements of digital page layout and design.
- 003 Apply vector and raster techniques to create a hard copy desktop publishing project.
- 004 Measurement and feedback.

SUMMARY OF INSTRUCTION: During informal lecture, students learn basic terms, definitions and fundamentals about desktop publishing and how to apply the information into creating a final publication. Through demonstration and performance exercise, students will use raster-based graphic design, vector-based and desktop publishing software. Students will create a graded project using basic layout and design fundamentals, combining text and graphic images, elements of page layout, design fundamentals, and color theory in an electronic desktop publishing format. The project will be comprised of original design vector-based and raster based graphics, combined into a desktop publication and printed to a color printer. A performance examination covering the above tasks will be given at the end of this block of instruction. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all written and performance examinations.

REFERENCES:

- Student Guide; *Lithographer's Manual (9th Ed)*;
- *Looking Good in Print* by Roger C. Parker;
- *The Non-Designer's Design and Type Book* by Robin Williams;
- *Print Publishing Guide* by Adobe Press;
- *The Graphic Designer's Digital Toolkit* by Allan Wood;
- *Adobe In Design Classroom in a Book* by Adobe Press;
- Applicable manufacturers' manuals.

INSTRUCTOR/STUDENT RATIO: 1:16(L, EW, EP); 1:8(D, PE)

SAFETY FACTORS: Electrical hazard from computer systems connections; tripping hazard from cables, cords and a subdued lighted environment; Carpal Tunnel Syndrome possibility from the keyboard and mouse use; back injury due to poor sitting posture.

Functional Area 3 – Overview
MULTIMEDIA DESIGN

Total FA Hours: 171

Terminal Training Outcome: Functional area three builds on the knowledge, skills and abilities developed in the earlier functional areas and introduces new concepts of presentation, animation and web design. Students learn the fine art of interactive multimedia design and develop knowledge, skills and abilities in multimedia authoring including design, sound, video and animation. They practice the fine art of interfacing 2D graphics in a 3-D environment then add movement and interaction using basic web applications. They will encounter real life problems and learn to apply critical thinking skills to troubleshoot and solve any challenges. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all performance and written examinations.

UNIT 001: Presentation Techniques

- 001 Define basic terms and design principles of projected media.
- 002 Define basic terms and characteristics of electronic presentation software.
- 003 Define charts and graphs and their purposes.
- 004 Explain basic terms and concepts for video teleconferencing to include operating principles, equipment and system management.
- 005 Create an electronic presentation incorporating multimedia and hypermedia.

UNIT 002: Digital Audio and Digital Video

- 001 Define basic terms and concepts for digital audio and digital video.
- 002 Use digital audio and digital video software.
- 003 Measurement and feedback (mid-term).

UNIT 003: Multimedia Authoring Software

- 001 Define basic terms, concepts, and procedures for multimedia authoring and animation.
- 002 Produce an interactive multimedia project.
- 003 Create animation
- 004 Use internal/external-archived images.

UNIT 004: Web Page and the Internet

- 001 Define basic terms about image/data transmission and satellites.
- 002 Explain how to transmit data via telecommunications.
- 003 Define Policies and regulations governing web sites.
- 004 Create a web site with web page design software.

INSTRUCTIONAL TYPE AND HOURS: 12L; 29D; 94PE, 4EW, 23EP, 9 CAI

**FUNCTIONAL AREA 3
MULTIMEDIA DESIGN**

TPFN: DINFOS-BMIC-003-001-

UNIT TITLE: Presentation Techniques

TPFN HOURS AND TYPE: 3L; 4 CAI; 8D; 8PE; 9EP

TPFN TOTAL HOURS: 32

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK(S):

- 001 Define basic terms and design principles of projected media.
- 002 Define basic terms and characteristics of electronic presentation software.
- 003 Define charts and graphs and their purposes.
- 004 Explain basic terms and concepts for video teleconferencing to include operating principles, equipment and system management.
- 005 Create an electronic presentation incorporating multimedia and hypermedia.

SUMMARY OF INSTRUCTION: During informal lecture and computer aided instruction, students learn basic terms, characteristics, and definitions of electronic presentation software, including projected media, electronic presentations, charts and graphs, basic animation, digital audio-video and video teleconferencing. Students will use a Computer Aided Instruction (CAI), self-paced module during the course of instruction. Through demonstration and performance exercise, students use presentation software to create electronic presentations, incorporating effective use of text, color and the principles of design. A performance examination covering the above tasks will be given at the end of this block of instruction. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all written and performance examinations.

REFERENCES:

- Student Guide; *Digital Media Tools* by Nigel Chapman and Jenny Chapman;
- *The Non-Designer's Design and Type Book* by Robin Williams;
- *The Graphic Designer's Digital Toolkit* by Allan Wood;
- *Creating Dynamic Multimedia Presentations* by Carole M. Lehman;
- applicable manufacturer's manuals.

INSTRUCTOR/STUDENT RATIO: 1:16(L, CAI, EP); 1:8(D/PE, PE)

SAFETY FACTORS: Electrical hazard from computer systems connections; tripping hazard from cables, cords and a subdued lighted environment; Carpal Tunnel Syndrome possibility from the keyboard and mouse use; back injury due to poor sitting posture.

**FUNCTIONAL AREA 3
MULTIMEDIA DESIGN**

TPFN: DINFOS-BMIC-003-002-

UNIT TITLE: Digital Audio and Digital Video

TPFN HOURS AND TYPE: 2L; 4D; 8PE; 2EW

TPFN TOTAL HOURS: 16

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK(S):

- 001 Define basic terms and concepts for digital audio and digital video.
- 002 Use digital audio and digital video software.
- 003 Measurement and feedback (mid-term).

SUMMARY OF INSTRUCTION: During informal lecture, students learn basic terms and definitions about digital audio, digital video, imagery captions, video recorders, and product distribution. During a guided demonstration, students will use digital audio and digital video software to complete a practice exercise they will use later in the course. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all written and performance examinations.

REFERENCES:

- Student Guide;
- *Digital Media Tools* by Nigel Chapman and Jenny Chapman;
- *Adobe Premiere Classroom in a Book* by Adobe Press;
- applicable manufacturer's manuals;
- *Digital Multimedia: The Business of Technology* by Susan Lake and Karen Bean;
- Soldier's Manual and Trainer's Guide MOS 25M STP 11-25M13-SM-TG, Multimedia Illustrator;
- Illustrator Draftsman Manual NAVEDTRA 10472;
- software help files.

INSTRUCTOR/STUDENT RATIO: 1:16(L, EW); 1:8(D, PE)

SAFETY FACTORS: Electrical hazard from computer systems connections; tripping hazard from cables, cords and a subdued lighted environment; Carpal Tunnel Syndrome possibility from the keyboard and mouse use; back injury due to poor sitting posture.

FUNCTIONAL AREA 3 MULTIMEDIA DESIGN

TPFN: DINFOS-BMIC-003-003-

UNIT TITLE: Multimedia Authoring Software

TPFN HOURS AND TYPE: 2L; 4CAI; 9D; 49PE; 5EP; 2EW

TPFN TOTAL HOURS: 71

PREREQUISITE TPFN: All previous TPFN's and sketchbook

TASK(S):

- 001 Define basic terms, concepts, and procedures for multimedia authoring and animation.
- 002 Produce an interactive multimedia project.
- 003 Create animation
- 004 Use internal/external-archived images.

SUMMARY OF INSTRUCTION: During informal lecture, students learn basic terms, definitions and concepts about multimedia authoring and animation. Through demonstration and performance exercises, students use multimedia software, animation software, recordable removable media, and internal/external archived images to create an interactive multimedia project. Students will use a Computer Aided Instruction (CAI), self-paced module during the course of instruction. A performance examination covering the above tasks will be administered at the end of this block of instruction. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all performance and written examinations.

REFERENCES:

- Student Guide;
- *Digital Media Tools* by Nigel Chapman and Jenny Chapman;
- *Adobe Flash Classroom in a Book* by Adobe Press;
- *How Computers Work* by Ron White; applicable manufacturer's manuals.

INSTRUCTOR/STUDENT RATIO: 1:16(L, CAI, EW, EP); 1:8(D/ PE, PE)

SAFETY FACTORS: Electrical hazard from computer systems connections; tripping hazard from cables, cords and a subdued lighted environment; Carpal Tunnel Syndrome possibility from the keyboard and mouse use; back injury due to poor sitting posture.

**FUNCTIONAL AREA 3
MULTIMEDIA DESIGN**

TPFN: DINFOS-BMIC-003-004-

UNIT TITLE: Web Page and the Internet

TPFN HOURS AND TYPE: 5L; 1CAI; 8D; 29PE; 9EP

TPFN TOTAL HOURS: 52

PREREQUISITE TPFN: All previous TPFN's, art portfolio, and sketchbook

TASK(S):

- 001 Define basic terms about image/data transmission and satellites.
- 002 Explain how to transmit data via telecommunications.
- 003 Define Policies and regulations governing web sites.
- 004 Create a web site with web page design software.

SUMMARY OF INSTRUCTION: During informal lecture, students learn basic terms and definitions of image/data transmission, including the Internet, networks, protocols and communication devices. Students also learn about transferring data via telecommunications, such as transferring graphical data from server to server, modulation techniques such as File Transfer Protocol (FTP), Fast Fourier Transforms (FFT), Hyper Text Transfer Protocol (HTTP), satellites and using emerging technology. Through demonstration and performance exercises, students learn about the Internet, web browsers, and web page design software and Web page design. Students will use a Computer Aided Instruction (CAI), self-paced module during the course of instruction. Students will use web page design software to create a web site. A performance examination covering the above tasks will be administered at the end of this block of instruction. An Interim and Final written examination will be administered during this functional area. Minimum passing grade is 70 percent on all written and performance examinations.

REFERENCES:

Student Guide;

Digital Media Tools by Nigel Chapman and Jenny Chapman;

Adobe Dreamweaver Classroom in a Book by Adobe Press;

SECNAVINST 5740.44B Policies and Regulations;

Research Based Web Design and Usability Guidelines;

GSA; applicable manufacturer's manuals,

DODINST 5040.5 Web Site Administration Policies & Procedures;

Section 508 Standards, Law 508 website <http://www.section508/>;

W3C Web Content Accessibility Guidelines 1.0 website <http://www.w3.org/TR/WAI-WEBCONTENT/>

INSTRUCTOR/STUDENT RATIO: 1:16(L, CAI, EP); 1:8(D/PE, PE)

SAFETY FACTORS: Electrical hazard from computer systems connections; tripping hazard from cables, cords and a subdued lighted environment; Carpal Tunnel Syndrome possibility from the keyboard and mouse use; back injury due to poor sitting posture.

**FUNCTIONAL AREA 4
COURSE ADMINISTRATION**

TPFN: DINFOS-BMIC-004-001-

UNIT TITLE: Course Administration

TPFN HOURS AND TYPE: 12AD

TPFN TOTAL HOURS: 12

PREREQUISITE TPFN: None

TASK(S):

- 001 In-processing/Orientation.
- 002 Course evaluation
- 003 Out-processing/Graduation

SUMMARY OF ACTIVITIES: Self-explanatory. Sketchbooks and a scheduled assignments list will be issued to students at the beginning of the course. Sketchbooks will be the faculty's means of observing student improvement to practice skills and render their concepts to paper throughout the course.

REFERENCES: DINFOS Policy and Procedure Manual

INSTRUCTOR/STUDENT RATIO: 1:30(AD)

SAFETY FACTORS: Routine