**Technical Theatre Guidelines**

**Indiana Theatre Standards Appendices**

Although technical theatre appears within the newly adopted theatre standards, we thought it wise to offer additional guidance as to expectations, curricular needs, and teaching resources.

*The broad subject areas are:*

Audio (including sound design and sound reinforcement)

Counterweight Rigging and General Rigging

Costume Design and Construction

Lighting Design and Stage Electricity

Makeup Design and Application

Projection Design and Application

Properties

Scenic Design and Construction

Scenic Painting

Venues

Theatre Safety (applied to each area)

**Audio**

1. Utilization of sound reinforcement equipment
   a. terminology
   b. mixing board functionality
   c. microphone types/functionality/usage
   d. speaker types and placement
   e. audio principles and theory
   f. wireless technologies and theory
   g. troubleshooting
   h. safe practice

2. Sound Design
   a. terminology
   b. editing software
   c. sound creation
   d. historical musical styles/periods
   e. script analysis
Counterweight Rigging and General Rigging

1. Counterweight rigging (types)
   a. terminology
   b. single purchase
   c. double purchase
   d. loads, ratios and physics
   e. system components
   f. system functionality
   g. rigging inspections
   h. safe practice

2. Automated Rigging
   a. terminology
   b. types (fully automated, hybrid, custom)
   c. functionality
   d. rigging inspections
   e. safe practice

3. General Rigging
   a. terminology
   b. terminations (knots, wire rope clips, compression sleeves)
   c. wire rope
   d. natural rope/synthetic rope
   e. safe working loads
   f. design factor (5:1, 8:1, 10:1)
   g. computation of design factor, de-rated terminations and other factors
   h. safe practice

Costume Design and Construction

1. Types of Costumes
   a. terminology
   b. gender
   c. style period/historical period
   d. fabrics
   e. sketching

2. Costume fabrication
   a. terminology
   b. construction materials, tools and hardware
   c. construction techniques
   d. actor fittings
   e. finishing techniques including dyeing and painting
   f. repairs
   g. general costume maintenance
   h. repurposing exiting garments/costumes
   i. safe practice
Lighting Design and Stage Electricity

1. Design
   a. terminology
   b. image research
   c. script analysis
   d. fixture types and functionality
   e. color theory
   f. color temperature
   g. rendering
   h. drafting the plot/paperwork
   i. creating a shop order

2. Reading and hanging the plot
   a. terminology
   b. Interpreting paperwork (plot/instrument schedule/channel hookup, etc.)
   c. hanging fixtures
   d. focus
   e. electrical cable and cable management
   f. accessories (color frame/gobo/iris/top hat, etc.)

3. Electricity
   a. terminology
   b. dimming
   c. power distribution
   d. electrical theory and computation (West Virginia formula, etc.)
   e. connectors commonly used in theatre
   f. wiring connectors and plugs
   g. NFPA 70: National Electrical Code®
   h. safe practice

4. Communication Protocols
   a. terminology
   b. AMX, DMX512a
   c. Ethernet
   d. connectors

5. Multi-Parameter Fixtures (moving lights, LED, etc.)
   a. terminology
   b. types of fixtures
   c. programming (fixture, board)
   d. power requirements
   e. communication protocols

Makeup Design and Application

1. Makeup Design
   a. terminology
   b. research
   c. cultural/historical precedents
   d. physical features of the face, hands, etc.
2. Procedures of application
   a. terminology
   b. types of makeup
   c. latex
   d. tools
   e. techniques of application
   f. safe practice

Projection Design and Application

1. Design
   a. terminology
   b. research
   c. image sources
   d. projector/source functionality
   e. projection surfaces
   f. sketching
   g. rendering
   h. design software (Photoshop, Corel Draw, etc.)
   i. aspect ratios

2. Projection procedures
   a. terminology
   b. projection equipment (projectors, cable, connectors, etc.)
   c. projection software
   d. projection mapping
   e. pixel mapping
   f. safe practice

Properties

1. Research
   a. Types (hand props)
   b. image search
   c. historical references
   d. functioning/non-functioning
   e. rental/borrow
   f. fabrication

2. Fabrication
   a. terminology
   b. tools
   c. techniques
   d. found objects/object components
   e. storage and security
   f. safe practice
Scenic Design and Construction

1. Design
   a. terminology
   b. research
   c. sketching
   d. 3D rendering (Sketchup, etc.)
   e. model making
   f. drafting
   g. tools
   h. construction materials

2. Construction
   a. terminology
   b. reading blueprints
   c. measurement
   d. construction materials
   e. tools
      1. hand
      2. power
   f. joinery
   g. safe practice

Scenic Painting

1. terminology
2. tools
3. materials
4. application methods
5. disposal requirements/methods
6. reading SDS (Safety Data Sheet)
7. safe practice

Stage Management

1. terminology
2. safe practice
3. tools
4. organizational strategies
   a. communications
   b. calendars/schedules
5. taping out stage
6. rehearsal/blocking notation
7. calling show
8. event safety strategies/compliance

Venue

1. The stage
   a. areas (deck, wings, backstage, pit, etc.)
   b. components (curtains, rigging, etc.)

2. Front of House
a. technical areas (catwalks, control booth)
b. administrative/audience areas (box office, lobby, audience seating, etc.)

3. Administration and Personnel (Front of House)
a. non-technical (house manager, box office manager, ushers, agents, etc.)
b. technical (light board operator, sound board operator, crew)

4. Administration and Personnel (Stage)
a. artistic director
b. director
c. stage manager
d. technical director
e. crew

5. Safety
a. audience safety (crowd control, evacuation procedures, etc.)
b. crew and performers (evacuation procedures, safe operation of systems, signage, fall arrest, fall protection)

Resources:

Audio

(AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION)
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC

Sound Console Manuals

The Sound Reinforcement Handbook (2nd Edition) by Gary Davis, Ralph Jones
Publisher: Yamaha; 2nd Edition (January 1, 1988)
ISBN-10: 0881889008

Publisher: McGraw-Hill Education; 7th Edition (October 1, 2012)
ISBN-10: 0073382221

Costuming

Publisher: Heinemann Drama; 2nd Revised ed. edition (November 2, 1992)
ISBN-10: 0435086073
Costuming for the Theatre by Terry McGonigle
ISBN-13 #: 978-1-934607-12-1
(AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION)
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC

Publisher: McGraw-Hill Education; 7th Edition (October 1, 2012)
ISBN-10: 0073382221

USITT Publications available for purchase/download at usitt.org

Projects for Teaching Costume Design Vol. 1
Practical Projects for Teaching Costume Design Vol. 2

Counterweight Rigging

www.esta.org

Articles related to counterweight rigging safety
http://www.jrclancy.com/safetyarticles.asp

Operations manuals for counterweight systems
http://www.jrclancy.com/operationandsafety.asp

Stage Rigging Handbook (3rd Edition), Jay Glerum
Publisher: Southern Illinois University Press; 3rd edition (April 18, 2007)
ISBN-10: 0809327414

Lighting Design and Electricity

The Automated Lighting Programmer's Handbook 3rd Edition by Brad Schiller
Publisher: Focal Press; 3rd edition (October 5, 2016)
ISBN-10: 1138926248

Designing with Light: An Introduction to Stage Lighting (Film) 6th Edition
By J. Michael Gillette, Michael McNamara
ISBN-10: 0073514233

Electricity for the Entertainment Electrician & Technician 2nd Edition
By Richard Cadena
Publisher: Focal Press; 2 edition (February 13, 2014)
ISBN-10: 0415714834

Lighting Console Manuals
Lighting Design (2006) by Robert Fowler
(ISBN # 978-1-934607-06-0)
AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC

Lighting for Theatre (2006) by Robert Fowler
(ISBN # 978-1-934607-10-7)
AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC


Scene Design and Stage Lighting 10th Edition by R. Craig Wolf, Dick Block
ISBN-10: 0495501905
Wadsworth Publishing (March 26, 2013)

Publisher: McGraw-Hill Education; 7th Edition (October 1, 2012)
ISBN-10: 0073382221


USITT Publications available for purchase/download at usitt.org

Practical Projects for Teaching Lighting Design Vol.1
Practical Projects for Teaching Lighting Design Vol. 2

Properties

Publisher: Players Press; 2nd Revised Edition (July 1, 2000)
ISBN-10: 088734934X

Safety


Occupational Safety and Health Administration: OSHA 10/General Entertainment Safety Training


Power Tool Operation and Safety
http://www.powertoolinstitute.com/
Scenic Design and Construction

Basic Set Construction and Theatre Safety by Robert Fowler
(ISBN 13 # 978-1-934607-09-1)
 AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC

Power Tool Operation and Safety
http://www.powertoolinstitute.com/

Scene Design and Stage Lighting 10th Edition by R. Craig Wolf, Dick Block
ISBN-10: 0495501905
Wadsworth Publishing (March 26, 2013)

Set Design by Robert Fowler
(ISBN 13 # 978-1-934607-05-3)
 AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC

By Bill Raoul, Mike Monsos
Publisher: Broadway Press; Third edition (September 15, 2015)
ISBN-10: 0911747435

Publisher: McGraw-Hill Education; 7th Edition (October 1, 2012)
ISBN-10: 0073382221

USITT Publications available for purchase/download at usitt.org

Practical Projects for Teaching Scene Design Vol. 1
Practical Projects for Teaching Scene Design Vol. 2

http://www.dolphin.upenn.edu/pacshop/usitt92.pdf

Scenic Painting

Scenic Art for the Theatre 3rd Edition by Susan Crabtree, Peter Beaudert
Publisher: Focal Press; 3 edition (December 1, 2011)
ISBN-10: 0240812905
Stage Makeup

Stage Makeup: The Actor’s Complete Guide to Today’s Techniques and Materials Paperback – April 1, 1999 By Laura Thudium
Publisher: Back Stage Books; 3.2.1999 edition (April 1, 1999)
ISBN-10: 0823088391

Publisher: McGraw-Hill Education; 7th Edition (October 1, 2012)
ISBN-10: 0073382221

Stage Management

Publisher: Back Stage Books; 3rd Revised, Expanded ed. edition (June 16, 2009) by Thomas A. Kelly
ISBN-10: 0823098028

(ISBN 13 # 978-1-934607-07-7)
(AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION)
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC

The Stage Manager’s Toolkit: Templates and Communication Techniques to Guide Your Theatre Production from First Meeting to Final Performance (The Focal Press Toolkit Series) 1st Edition
By Laurie Kincman
Publisher: Focal Press; 1st edition (April 13, 2013)
ISBN-10: 0415663199

Stage Management (2nd Edition) (2012) by Jason Daunter and Tom Martin
(ISBN 13 # 978-1-934607-13-8)
(AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION)
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC

General Resource and Reading

eSET Lexicon. App available for download from iTunes and Google Play

Technical Theatre Textbooks


Careers in Theatre (2012) by Marti and Robert Fowler
(ISBN 13 # 978-1-934607-11-4)
(AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION)
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC
Introduction to Technical Theatre (2006) by Marti and Robert Fowler
(ISBN 13 # 978-1-934607-08-4)
(AVAILABLE IN DVD/CD-ROM FORMAT, OR THROUGH YEARLY SUBSCRIPTION)
PUBLISHER: INTERACTIVE EDUCATIONAL VIDEO, LLC


Occupational Safety and Health Administration: OSHA 10/General Entertainment Safety Training
