

**IES LIGHTING EDUCATIONAL PROGRAM
GUIDE FOR SEMINAR/COURSE COORDINATORS AND INSTRUCTORS**

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ABOUT THE IES LIGHTING EDUCATION PROGRAM

The Illuminating Engineering Society (IES) places great emphasis on lighting education in fulfilling its mission to advance the art, science, and practice of illumination. The following educational programs provide an opportunity to:

- spread knowledge about state-of-the-art technology in lighting
- share skills and network with industry experts
- promote individual growth and competence
- contribute to the importance of sound lighting practice
- enforce the mission of the IES as an organization that is committed to its members and the lighting community

The IES seminars and courses can be used by educators in academic settings, corporations in education and training programs, by lighting practitioners and other individuals for self-study, and by manufacturers and distributors to provide more knowledge about light/lighting in order that staff members better understand their products and systems.

Courses

- ✓ *Discover Lighting* – A course whose audience comprises, primarily, college and secondary school students and interested non-lighting professionals coming from various work and skills backgrounds who need an introduction to very basic concepts of light/lighting and for whom this course and its content might prove to be a pivotal beginning from which to seek out additional instruction in the field of light/lighting. This course is available online via the IES web site and has been very successful in reaching the audiences for which the course was developed and at which it is targeted.
- ✓ *Fundamentals of Lighting* – A new course which will serve as the centerpiece of the IES Education Program, ultimately replacing ED-100. The course will be the introductory level course aimed at those professionals new to the field of light/lighting and lighting design and is expected to be completed and released during 2009. “Lighting Fundamentals” is intended to be a briefer and more basic course than ED-100 and will initially comprise 7 essential modules. Targeting the same audience addressed by ED-100, “Lighting Fundamentals” will be flexibly designed so that, as new needs arise, additional material to supplement the original modules can be designed and incorporated into the course. The initial 7 modules, with appropriate wrap-up sections for both Part I (“Fundamentals”) and Part II (“Lighting Concepts”), is being structured so that the course can be delivered in a one day or one-and-a-half-day of face-to-face, interactive, classroom or workshop sessions.
- ✓ *ED-150 / Intermediate Level Lighting* – A course that has been considered the “next step” in the IES sequence of light/lighting education, involving 13 modules and intended, primarily, for professionals in the field who have completed ED-100 or for those who wish to increase both their theoretical and applied knowledge. ED-150 will be phased out during 2009-2010 and replaced by a variety of new courses (at intermediate-advanced levels) currently in development, including seminars to be delivered in both traditional, face-to-face formats and, in the future, in online, e-learning environments.
- ✓ *Office Lighting* – An advanced, content-specific course delivered online via the IES web site and hosted online by an external vendor, Red Vector. The course is derived from the ANSI/IES Recommended Practice, RP-1-04, **Office Lighting**, and it is substantially the RP in an online format, with interim test questions and a 50+ question final exam.

The course is aimed at an audience of lighting professionals in need of learning the advanced course content for professional development or re-certification purposes.

Seminars

Specific topics with content targeted for the experienced professional ... at intermediate-advanced levels. Several new seminars are tentatively scheduled for release during 2009, as follows:

SEM-[01] – Planned Indoor Lighting Maintenance (seminar based on RP-36)

SEM-[02] – Codes & Standards – for Product & Application Safety, Energy Efficiency & Sustainability (seminar material based on newly researched content)

SEM-[03] – Lighting Economics (seminar material based on newly researched content)

SEM-[04] – Lighting Controls

SEM-[05] – Daylighting

Other new, upcoming seminars will focus on a variety of light/lighting topics and will be designed/ developed and released in the not-too-distant future; those under consideration will include seminars on Light & Health, based on a new, soon to be released, Technical Memorandum (TM), and Lighting for Hospitals **and** Health Care Facilities, based on RP-29.

SEMINAR/COURSE COORDINATORS

Each Section should select an Education Chair and/or Coordinator to manage the programs offered. That person may, or may not, also serve as an instructor for one or more of the program modules.

Duties include:

→ In advance ...

Reserving the space – the venue – and dates for the program

Obtaining commitments from instructors for each session

Applying for CEU credit(s) from IES

Preparing mailings announcing upcoming programs

Ordering and preparing program materials – including student texts from IES for education courses and other documents for seminars; compiling and printing other handouts provided by instructors

Ordering refreshments

Ordering/reserving computer, projection, and/or A-V equipment and arranging for any special demonstration needs of instructors

→ Immediately before ...

Confirming all ordered items - food, A/V equipment, computer hardware

Preparing name tags, handouts, folders for attendees

Checking set-up, arrangements, and room details with the host space

→ Day of the program ...

Setting up space

Setting up A/V equipment and checking its operation

Providing assistance in setting up instructors demonstrations

→ **Immediately following ...**

Returning any rental/borrowed equipment

Returning space to normal setup / found arrangement of seats/tables

Conducting any follow-up with the participants (homework assignments, program feedback, participant attendance lists, and certificate mailings)

Preparing evaluation of the entire course to report to the Section Board of Managers.

(Meeting setup checklist appears below.)

MEETING SETUP CHECKLIST

1. Session Rooms/Layout

Check off after all of the following items have been inspected:

- | | |
|--|---|
| <input type="checkbox"/> Appropriate chairs and tables | <input type="checkbox"/> Adequate lighting |
| <input type="checkbox"/> Ventilation/temperature controls | <input type="checkbox"/> Dimming controls |
| <input type="checkbox"/> Electrical outlets/extension cords | <input type="checkbox"/> Daylighting controls |
| <input type="checkbox"/> Walls to accept masking tape (pins) | <input type="checkbox"/> Wastebaskets |

2. Program Materials

Check off after all of the following items have been handled:

- | | |
|---|--|
| <input type="checkbox"/> Instructors invited | <input type="checkbox"/> Instructors accepted |
| <input type="checkbox"/> Course announcement mailed | <input type="checkbox"/> Course material ordered |
| <input type="checkbox"/> Registrations acknowledged | <input type="checkbox"/> Other course handouts |
| <input type="checkbox"/> Pads, pens, pencils, markers | <input type="checkbox"/> Refreshments ordered |

3. Audio Visual Equipment

Check off after all of the following items have been inspected:

- | | |
|--|--|
| <input type="checkbox"/> Computer/laptop | <input type="checkbox"/> Software, PowerPoint files/slides |
| <input type="checkbox"/> Computer projector/screen | <input type="checkbox"/> Compatibility issues worked out |
| <input type="checkbox"/> Video playback unit and screen(s) | <input type="checkbox"/> Program video tapes |
| <input type="checkbox"/> All A-V equipment/hardware pre-tested | |

INSTRUCTORS

We assume that a single instructor will not teach all sessions in a course. While each of the program modules is complete in itself, each instructor should become familiar with all modules for continuity and to avoid gaps and overlaps in presentations. When necessary, an instructor should be able to answer questions concerning homework from the previous module.

It is preferred, however, that the Course Coordinator attend all sessions to handle program set up, homework assignments, to introduce and assist participating instructors, and to monitor the program (see previous section of this guide).

Several weeks in advance of the course start date or event, each instructor should receive the instructor's material, that is, all course material related to the session to be taught – including any homework, test questions and answers, applicable slides, and a copy of the previous module's homework and answers.

The instructor should become familiar with the text material and, in addition, the appropriate section(s) of the current (Ninth) edition of the *IESNA Lighting Handbook* and all applicable recommended practices, design guides or other IES publications related to the subject of the program.

For maximum effectiveness, each instructor should feel free to use personal experience and visuals to augment and enliven the IES text and course materials. Simply reading the prepared text should be avoided. On the other hand, each instructor must cover all aspects of the session to prevent a gap in the student's knowledge and to enable the student to successfully complete any homework assignment.

The presentation should be tailored to the level of the students, with the goal of being as carefully designed and technical as possible, without overwhelming a majority of the course participants. In certain cases, some topics may be omitted or reviewed briefly in passing; for example, basic electricity need not be taught in detail to an audience of electricians.

The following guidelines are offered as suggestions toward preparing for an educational session, course, or professional development program.

PLANNING AND PREPARING THE SESSION

Session Preparation

Qualify the attendees

Obtain as much information as possible from the Section Course Coordinator about the people who have registered for the program. For example: What is their experience in lighting? In what segments of the lighting industry are they employed? Are other disciplines – design, architecture – represented?

Objectives

Determine your expectations from the session. By the end of this instruction period what should the attendee have learned/gained in increased knowledge or what should a participant be capable of doing additionally or differently from what he or she could do at the beginning of the session?

(At the beginning of the class session, ask attendees for *their* expectations from the session and check at the end of the period to determine if the instruction was successful according to your own and their expectations.)

Data gathering

During this research/development stage, plan the content of the program using the text for the program as the basis for teaching the material. In addition, thoroughly think through the subject, read other IES materials, plan the session outline, and develop suitable demonstrations, where possible, to illustrate key points. Consider the use of additional handouts to supplement the text.

Logistics and *pre-meeting* details

Ask ahead of time what the instructor's role should be in any of the *pre-meeting* physical preparations and logistics. Who will be responsible for room set-up, checking lighting, HVAC, demonstrations, and so on?

THE DELIVERY

Visuals and graphics

The use of visual and graphic information is strongly recommended. Video tapes and slides are supplied with some of the IES seminars and courses. Instructors are urged to supplement the course with visuals and graphics of their own. When using technical or data slides, or presentational materials (e.g., PowerPoint slides), we recommend that a complete set of handouts be given to all students as permanent notes.

Equipment used for visuals and graphics should be "sized" to ensure that all students can see and hear with ease, from the back as well as the front sections of the room. Screens should be large enough and centrally located so that students are viewing the projected material straight on and not at a difficult or severe angle. A video setup and projector (monitor, screen) may require more than one monitor in more than one location for satisfactory viewing by all present in the room during the course session.

It is the responsibility of the instructor to be specific in identifying equipment needs for the session and making those requirements known ahead of time to the Section Course Coordinator.

GUIDELINES FOR USE OF VISUALS AND GRAPHICS

Slides

Slides – shown via PowerPoint slide “packages” or other similar software – are the most commonly used visual medium in training. They are an aid to support your oral presentation.

Slides are used to:

- attract and hold attention
- create interest
- increase retention
- provide variety
- shorten time needed for explanation

Slides are also used when pictorial realism is considered important.

Advantages of slides	Limitations of slides
Easy to use	Less dramatic than video
All or parts may be used	Require selective previewing
Low cost	Speakers sometimes use them as a crutch or substitute for preparation
May be used repeatedly	Quality of duplicates may be poor
May be used with groups of all sizes	Word slides may be difficult to read in a large room
"Pacing" of presentation can	There is a tendency to overload a slide set

be controlled by the presenter

with too much textual information or data

Suggestions for using slides

- Check to ensure that the room can be darkened sufficiently. The space need not be in total darkness; a controllable/dimmable lighting system is best to allow sufficient light for audience note taking.
- Find the location of the light switches in the room and determine the most suitable light level for slide viewing ... *before the program begins.*
- Mount projector on a high table to prevent shadow interruptions by anyone walking in front. Place screen in a location readily visible to everyone in the room.
- Check the projector to make sure it is operating correctly and that there is a spare projection bulb available.
- Always preview the slides on site.
- Have the projector set to go, correctly focused, with the first frame ready to project as soon as the projector is turned on.

Additional suggestions for delivering presentations

- The presenter must face the audience and avoid talking to the machine. It requires some practice and skill in learning to write on the overhead and still be able to maintain eye contact with the participants. The end result will be worth while because it enables the instructor to be able to continue a dialogue with the audience, and at the same time record participants' input on the overhead, giving them "ownership" of that portion of the program through interaction.
- One note of caution cannot be over-emphasized. Lettering on a overhead transparency should be not smaller than 1/2 inch. There is often a tendency to copy an entire typed page of material onto one overhead. It will be totally illegible beyond the first row of the audience. Confine typed material to a few statements and enlarge the type for the purposes of projection.

Video equipment (monitor, screen) and tapes

This method of presentation is an excellent one to use for supplementing information provided by the instructor and is currently available for instructional use with ED-100, Lighting Education Fundamentals.

Advantages

Adds another presenter, concept, or viewpoint to the program

Demonstrations that cannot be conducted in the classroom can be effectively shown on video

Limitations

Tape segments longer than 20 minutes tend to lose audience interest

Tapes of less than professional quality detract from the overall program

Suggestions for using video

- The instructor should always set the stage for – i.e., contextualize – what will be shown in the video and conduct a brief follow-up discussion of what was presented at the end of the tape. Videos should never be completely stand-alone without introduction to and interpretation following the video – i.e., the instructor should "process" or de-brief the tape's thematic content or message.
- It is often useful to stop the tape to discuss key points, or replay certain segments to emphasize what has been said or depicted.
- Video tapes should be carefully previewed before showing to make sure that the message compliments or adds another dimension, but that it does not contradict the

information being provided by the instructor, unless, of course, an opposite view would prove beneficial.

Demonstrations

Whenever possible we recommend that principles, concepts, and applications be demonstrated to enhance participants' comprehension. In the program outline for each seminar there are suggested demonstrations, props, or instructional aides to have on hand.