Distance Education Classrooms for Engineering Online Faculty

1.0 General Description of Distance Education Classrooms

Engineering Online faculty teach in a distance education classroom managed by NC State’s Video Communications Services. These DE classrooms are located in Daniels Hall, Mann Hall, Engineering Building II (EBII), and Monteith Engineering Research Center (MRC). In addition to these fully equipped classrooms, Engineering Online has three mini-recording studios - one in Page Hall, Broughton Hall, and Engineering Building II (EBII) where faculty can pre-record lectures or create tutorials or other content that does not require students to be present.

NC State’s distance education classrooms are equipped with state-of-the-art media enhancements. A document camera and SMART board allow you to capture and record work that you do in class. The computer provided in every classroom is set up to accommodate all media formats, computer-generated graphics, video/media files, and networked applications. Classrooms are also wired to allow you to use your own laptop computer. Two-way interaction with 2+2 and BSE students at other institutions across the state provides "live" participation via the NC-REN network or by video-over IP (Internet protocol).
2.0 Support Personnel in Distance Education Classrooms

Every distance education classroom is staffed with a Media Technician who operates the audio and video equipment that records your distance education course. The Media Technician will read your body language and oral cues to determine what element of your class to record.

The Media Technician will assist you with your technical requirements, and will make sure your media ready is for distribution. Members of the Engineering Online (EOL) staff will make the videos and course materials available through the EOL course web site for your students according to the arrangements to which you have specified. Please let the EOL Director know if you wish on-campus students to have access to these video lectures.

3.0 Equipment in the Distance Education Classroom

3.1 Dry-erase board

Most distance education classrooms are equipped with a traditional classroom dry-erase board. The classroom camera captures notes that you write on the board.

3.2 Document camera

Every distance education classroom is equipped with an overhead document camera. The document camera captures any document that you place on the camera zone of the classroom console, including notes that you write on 8-1/2” x 11” pads with the felt tip pens provided. Using the document camera has several advantages: First, because you don’t need to turn your back to your class, you maintain better contact with your students. You do not block their view, and they hear you better. Second, by checking the monitor in the back of the room or on the console, you can see exactly what all of your students are seeing, on and off campus, and can ask the media technician to adjust or magnify the image. Third, you can save a complete record of your board work to your computer. Encourage your in-class students or the Media Technician to let you know when you might need to reposition the material under the document camera to provide them with a better view, or to tell you if you removed something too quickly.
The Engineering Online staff will have a special folder in the studio with the name of your course on the outside. Place your hand written notes in the folder at the end of the class. You may leave the folder with the video technician or on the teaching console. The notes you write for the document camera will be digitized by EOL staff and will be available online for your students along with the video. Please number the pages.

### 3.3 Classroom computer

There is a computer installed in the instructor’s console of every distance education classroom. The computer is Internet connected and equipped with most of the software licensed by NC State. If you need software not included in the standard configuration, contact your distance education program director before your first class session to arrange for it to be installed.

Before each class begins, transfer every file you will need to the classroom computer and test each file to ensure that you can access it. You can transfer files by flash drive or CD, or you can log in and access them from your NC State FTP locker.

Computer images appear on the room monitors and are recorded.

If you need special software on the studio computer, please contact the media technician as soon as possible and at least one week before using the software in the class. Examples include MatLab, Equation Editor, etc.
3.4 Connectivity for your computer

You can also project files from your own laptop computer. The Media Technician will show you how to set up your laptop for video projection and recording. In many of the rooms you can switch back and forth between the distance education classroom computer and your laptop.

3.5 Media playback

You can show your class pre-recorded media inserts from the computer, DVD or other sources. Please notify your Media Technician in advance if you plan to use pre-recorded media. Be certain that your use of the insert complies with copyright restrictions. If you need help obtaining permission for the use of copyright material, contact Dr. Krute at linda_krute@ncsu.edu

If you have media in different formats, please tell your Media Technician at least two lectures ahead of time. With enough notice the Media Technician may able to provide the proper equipment for your media playback or duplicate your media to a standard format.

3.6 Cameras

Each distance education classroom is equipped with four classroom cameras--two to record your presentation and two to record your students when they ask questions. Remember that the classroom camera represents your distance education students. Establish eye contact with the camera as often as possible.

3.7 Presentation screens and monitors

Each distance education classroom has three or four large monitors, two or three for your on-campus students to watch and the other in the back of the room for you. The monitors usually show the same image that is seen by the document camera or on the computer.
By coordinating with the Media Technician, you can arrange for alternative displays on the monitors.

- **Live programming:** If you want your on-campus students to see exactly what is being recorded, you can direct your Media Technician to show it on the room monitors.

- **Media playback:** When you show your class a pre-recorded media insert, the Media Technician will display it on the room monitors.

### 3.8 SMART Sympodium lectern

The distance education classrooms are equipped with a SMART Sympodium. The interactive screen of the Sympodium connects to the video classroom computer and displays the desktop image. You touch the screen with a stylus to control applications or use an interactive pen to write notes over the top of the computer application. The images you create will be displayed on the monitors and you can save your work.
3.9 Microphones

All distance education classrooms are equipped with a lavalier microphone to clip to your shirt or blouse. The microphone provided must be switched on before you begin. Please remember to switch it off and remove it before you leave the classroom. Avoid wearing jewelry close to the microphone which can cause audio problems.

Student desks are equipped with flat-pyramid or round-button microphones. These microphones are sensitive to ambient noises including paper rustling, pencil tapping, and nervous student movement. Many of the student-conduct rules that are specific to the distance education classroom are intended to protect this equipment and keep it operational.

During your class, the Media Technician will adjust the sound level of the microphone input according to class activity. If you are lecturing, he will lower the level of the student microphones. During question-and-answer sessions, he will raise the level.

3.10 Supplies

VCS provides special felt-tip pens and pads for use with the overhead camera. Pens and pads will be on the desk when you arrive. They also supply pens for the whiteboards. If the pens run dry during the lecture, ask the media technician for more pens and/or paper. Please leave pens and pads in the classroom.

4.0 Effective teaching in the media-rich classroom

You will quickly become accustomed to the technological features of the media-rich classroom. As you teach, keep in mind that you have extra students—the distance learners. Imagine that the camera represents those extra students, and engage them by addressing the camera directly as often as possible.

Remember that the camera cannot ask you to repeat a question or ask for clarification. It cannot follow your movements around the room as quickly or as comprehensively as a student’s eyes.

To mitigate these deficiencies, consider incorporating these teaching strategies into your usual style:

- Make liberal use of visual aids. The distance learning classroom is especially conducive to computer images, including PowerPoint presentations, slides, and video footage.
• Format your course materials so that they will transmit well. Use a horizontal (landscape) format. Select a large point size (at least 24 points), **boldface**, and a sans serif font (Arial or Helvetica). Avoid white backgrounds; use at least 20 percent gray. Avoid saturated or bright colors such as reds, yellows, true whites, magentas and yellow-greens.

• Enunciate your words, and use volume and pitch variations to add interest.

• Repeat on-campus students’ questions, re-stating them if necessary, before you answer them. When the Media Technician notices that you fail to repeat a question that did not get picked up by the microphone, he or she will remind you by saying, “Question, please.”

• Avoid rapid movements under the document camera, especially when the camera is in an extreme close-up.

• Use either verbal cues or body language to telegraph your movement around the room to your director so he can maneuver the cameras into position.

• Dress conservatively in muted colors. Avoid striped or white shirts and blouses, which do not record well. Choose a style with a collar or placket so that you will have a place to attach the lavalier microphone. Avoid wearing jewelry, eyeglass chains, or other items that may touch the microphone, causing audio interference.

• Keep communication open with Media Technician. The Media Technician may make suggestions to help you with technical/visual/audio aspects of the class. Feel free to make suggestions to the Media Technician before, during, or after the class. Double check to be sure that the Media Technician is aware of any announcements you have made to the class that might affect him/her, such as scheduling changes, review sessions, and upcoming exams.

### 5.0 Conducting class

On the first day, arrive at least 15-20 minutes early to meet with the VCS Media Technician who will be assigned for your class, find your way around the equipment, and arrange materials. After the first day, the classroom will be locked until 15 minutes before the start of your class. If you want earlier access, check with the Media Technician to see if scheduling permits earlier access.

If your class runs back to back with another class, please be patient while the director resets and tests the equipment. He will address your special requests as quickly as possible.

Take attendance and do any other time-consuming tasks that do not pertain to remote students before the recording. Explain to your on-campus students that they should feel no differently about taking a course in a video classroom than in any other campus classroom. They should feel free to ask questions, volunteer information, participate in
discussion groups as you direct--in short, everything they would do in an ordinary classroom. Ask them to accommodate their off-campus classmates by respecting classroom security, protecting the equipment, and minimizing audio interference.

When you are ready to begin, tell the Media Technician. He or she needs about 90 seconds to get under way. Wait to begin until the “slate” designating the date and lecture number appears on the room monitors. Your recorded lectures are numbered consecutively, and do not include class sessions that are not recorded. DO NOT number exams as lectures.

In subsequent sessions, meet with your Media Technician to discuss special circumstances, e.g., group discussions, in-class exams, or use of special materials. Give your Media Technician advance notice if you need him to arrange for special equipment or if you will be cancelling future class sessions.

**Murphy’s Law:** There is a great deal of redundancy built into the video classroom to reduce the consequences of a breakdown. However, the technology is not perfect, and neither are the directors. Something could go wrong. Although catastrophic failures are rare, if a recording proves to be unusable, you will be requested to re-record that lecture.

### 6.0 Orientation to the distance education classroom

Before the semester begins you’ll be asked to attend an orientation in the distance education classroom where you’ll be teaching. EOL will schedule this orientation and notify you in advance.

During the orientation, you will …

- Meet the staff of EOL and VCS who will be responsible for the production of your class
- Receive contact, emergency, and scheduling information for your classroom
- Get acquainted with the room setup, including the control room, monitors, overhead camera, and other recording devices
- Discuss recording procedures and the new delivery system, Media-Site, and how this new system affects the overall presentation of your lectures
- Discuss the routing capabilities, graphics, and the default routing setup for the monitors
- Discuss the microphone system, including the levels set for the student microphones and potential problems
- Discuss strategies for communicating with the Media Technician before and during a class lecture
6.1 Rules for Student Conduct

To ensure the quality of the video recording and to protect the equipment in the DE classrooms, the Media Technician will review the following student guidelines with students on the first day of class. VCS requests your support in enforcing these policies:

1. Students should not enter the room unless an operator or instructor is present.
2. Turn off all cell phones/pagers.
3. Do not eat or drink in the classroom.
4. Do not lay books, papers, or other materials on desk-mounted microphones.
5. Do not tear paper, bang pencils, or make soft noises around microphones.
6. Do not disturb cables or cable jacks on or under the tables.
7. Do not mark or write on the tables or mar upholstered furniture.
8. Take away any items brought into the classroom, including newspapers, papers, etc.

7.0 Contact information and other useful links

ENGINEERING ONLINE

Dr. Linda Krute, Director
Distance Engineering Education Programs
919-515-5440
Linda_Krute@ncsu.edu

Dede Nelson
EOL Faculty Support Coordinator
dede_nelson@ncsu.edu
919-515-9149

Eva Boyce
Media Coordinator
Eva_boyce@ncsu.edu
919-513-4822–or- toll free 877-254-0058

Sarah Boswell
Student Services Coordinator for Exams and Proctors
Sarah_boswell@ncsu.edu
919-515-8415 –or- toll free 877-254-0058

Staci Wallace
Homework Coordinator
Staci_wallace@ncsu.edu
919-513-2844 –or- toll free 877-254-0058
7.0 Contact Information and other useful links, continued

Susan Withington
Coordinator of EOL Course Websites
sdwithin@ncsu.edu
919-513-0535 –or- toll free 877-254-0058

VIDEO COMMUNICATION SERVICES

Bob Klein
Program Coordinator and Contact Person for Pretaping in Studio Classrooms
bob_klein@ncsu.edu
919-515-3683

John Gordon
Broadcast Media Manager
John_Gordon@ncsu.edu
919-515-6107

Name and contact information for your Media Technician:

________________________________________________________________________
________________________________________________________________________

ONLINE RESOURCES

Disability services for students
http://www.ncsu.edu/provost/offices/affirm_action/dss/accommodations/

Tips for producing graphics for TV and video-streaming presentations
(http://citnews.unl.edu/presentations/video.html)

Two-minute tutorials on SMART board and Sympodim
(http://www.smarttech.com/trainingcenter/tutorials.asp)