

## **Network Skills for Remote Learners Development, Delivery and Evaluation**

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### **Overview**

*Network Skills for Remote Learners* is an introductory course for anyone who needs to become more effective in learning and working at a distance. It addresses critical topics related to time and space management, network connections, information management, desktop skills and group-work. These elements are interconnected and internally reinforcing. The course was developed as part of the fast-track, Internet delivered, Master of Engineering in Professional Practice (MEPP) degree <http://mepp.engr.wisc.edu>. This degree has been highly successful in terms of student satisfaction and financial self sufficiency. It has won three major national awards and this introductory course plays a significant role in the success of the overall program.

*Network Skills...* has been taught five times to an audience of working adult learners. It has also been evaluated by students and their managers. In the immediate post course evaluation, 96% of students say that their computer skills improved “significantly” as a result of this course. In the workplace 360, which follows graduation by 9 months and thus follows the end of the course by almost 3 years, 89% of managers agree with the student’s assessment that “significant” improvement in computer skills has occurred.

The course is successful, because it takes a strategic approach to the topics involved. It explains why improvement in these skills is necessary and provides authentic exercises to test and develop skills. It attacks common problems directly. Time management is looked at strategically - as a matter of priority setting and honest estimating of task requirements. Information management takes a “zero inbox” approach to email and introduces alternatives. It also looks at Internet research as real research, which needs to be preserved in something better than 300 unorganized bookmarks. It includes information on finding information outside of search engines and Internet based library access. Desktop skills include good practices such as backup, virus protection and general security. They also include standards for file naming, hard disc organization and use of metadata. The creation and use of compound documents is addressed – knowing the difference between linking, pasting, embedding is critical. Desktop skills go beyond the desktop to include coordination of multiple machines: home, office and laptop. Group-work includes best practices in use of synchronous and asynchronous communications tools. It also includes document management, document markup, version and revision control, workflow design, and the use of style sheets as opposed to an endless cycle of hard coded revisions, where each person in the group spends more time restyling the document than responding to the content. This is just a sample of the issues addressed.

*Network Skills for Remote Learners* is divided into four modules, with four lessons per module. It is often team taught, with different instructors responsible for each module. The time management module, in particular, requires a different skill set from the more computer oriented modules.

Course material includes: a study guide and a set of reference books as well as a video and supplemental readings. The study guide describes learning goals and objectives, provides a rationale for each objective and a set of readings and exercises to support, reinforce and evaluate those objectives. The course relies on the reference books to provide detailed instructions on the complex and varied tasks involved and to address the many different versions of software, hardware and operating systems that may be encountered. In the current version of the course, the following reference books are required.

*First Things First*, Steven Covey, Roger Merrill and Rebecca Merrill, Fireside Press, 1996

*Internet: the Complete Reference*, Margaret Levine Young, Osborne-McGraw Hill, 2002

*Special Edition, Using Microsoft Office 2000*, Ed Bott and Woody Leonhard, QUE, 1999 (or current version appropriate to office suite in use)

*Special Edition, Using Windows 2000*, Robert Cowart and Brian Knittel, QUE, 2000 (or current version appropriate to office suite in use)

This study guide / reference shelf approach is efficient and effective. In developing the course, it was not considered possible, desirable or necessary to reproduce individual readings for each subject. These detailed references are useful outside the program as well and one of the course goals is to get students in the habit of using them. The “Special Editions” of the QUE books were chosen, because they are well organized and well written and provide detailed coverage of the issues that are critical to the course. A reference series from another publisher, such as McGraw-Hill, Microsoft Press, Sams or O’Reilly could also be used.

### **Course Delivery**

The course is currently taught using *WebCT* and other Internet tools, including: *DocuShare* for file document management and *Placeware* for synchronous conferencing. Course conduct consists primarily of reading and preparing problem-focused assignments which are composed in MS Office and submitted and returned through our DocuShare server. This server is also available for group-work. Some assignments include required postings in the WebCT discussion forum. Students participate in live web conferences and are also encouraged to use audio conferencing and web conferencing tools to conduct group-work. Campus level access to course records, library services, grades, transcripts, records and other campus services is through the main campus portal. Student support is available through discussion forums, live teleconferences and student / instructor e-mail. Students are encouraged to support each other and they do.

A course such as this cannot address all network and desktop skills required by a remote student. It focuses on key concepts and critical skills and implies a further commitment to time and resource management and continuous improvement of software skills. Each course in the two year MEPP curriculum contains a “Network Skills...” forum to provide further support and encouragement to the students as they progress through the program. The Network Skills... instructors are responsible for monitoring and maintaining this forum.

## Topics

### Time Management Strategy and Tactics

- Understand what it means to learn independently and at a distance – what challenges you will face, what time commitment is required, what skills are required, what issues need special attention and why you need to develop new learning skills.
- Identifying yourself as a learner, understanding your role as learner and where it fits with your other roles. Communicating this role to others and developing support.
- Understand why you need to build a formal learning plan. Estimating time requirements for learning. Building a personal learning schedule and communicating this schedule. Assessing progress and refining your schedule.

### Understanding IP Networks and the Internet

- IP– what it is and how it works, using ping and traceroute to visualize your place in the network
- Getting acquainted with your network administrator

### Managing Multiple Machines

- Understanding the challenge of desktop, laptop and palmtop synchronization
- Strategies for managing multiple machines, building a home network

### Security

- Understanding the seriousness of the problem – yes it will happen to you
- Backup strategies and options
- Virus Protection, Adware, Spyware and hoaxes

### Organization

- Examining your file structure and organization
- Developing effective file management procedures, understanding and using metadata

### Efficiency

- Understanding file types and associated applications
- Building efficiency through your desktop, startup and defaults
- Work habits, routines, workflow and organization

### Finding Information on the Internet

- Understanding search engines and the results they produce
- Using advanced search features
- Alternative methods for locating information on the Internet

### Using the Library

- Comparing library search results to search engine results on a common topic
- Learning to use the library efficiently

### Organizing and Storing Your Search Results

- Organizing bookmarks, including use of an annotated bibliography
- Combining “found” information with locally developed information

### Solving the Desktop Filing Problem

- The secretary’s handbook - classification is the issue
- Putting things away – where and how

### Email Efficiency

- The “zero in-box” approach
- Sorting, Filtering, Automating

### Styles and Templates

- Importance to you and your workgroup
- Understanding and using effectively

### Compound Documents

- Understanding document objects
- Pasting, Linking and embedding
- Use in various applications: Word, Excel, PowerPoint

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Document Management

- Understanding document management
- Version and revision control

Synchronous Communication

- Process and procedure for effective audio conferencing and web conferencing
- Business uses of Chat

Asynchronous Communication

- Discussion forums for idea generation and project communication
- Business uses of Weblogs – an email alternative

**Student Comments About the *Network Skills ... Course***

In addition to the course ratings discussed in the introductory paragraph, we also collect student comments in our course, program and post program evaluations. The comments below are taken from these evaluations.

*I liked having to stretch to learn new skills. I knew that the features (of Microsoft Windows and Office) introduced in this course existed. I just did not know how valuable they could be to me. Now I know.*

*Excellent choice in texts. I originally had misgivings about purchasing certain textbooks which I thought were "beginner" level texts. But I was relieved to find them packed w/ useful information for advanced users too.*

*The tools we learned to use will be helpful in the upcoming semesters, but they are also immediately useful in my work.*

*Real life exercises are far more effective than reading a chapter in a book- especially when it comes to computer jargon.*

*I did enjoy the file management exercises. Although I've worked with PC's for years, until this course, I did not apply true file management (principles.)*

*I really liked learning more about some of the finer details related to the Windows and the Internet environment. While I've been comfortable with both for years, I now feel even more comfortable and knowledgeable. The text books (were) an excellent choice.*

*The preparation in Network skills had an impact for me that went beyond things "learned" - it helped me to create a new culture in which I live!*

*I am more organized and deliberate when planning work and projects. I make more efficient use of the Internet, computers, and technology in my work.*

*I am a much more effective communicator, and I have a greater command of the more modern tools for doing my job.*

*The "first things first" concepts have stuck with me-- such as scheduling my priorities rather than visa versa. I have also learned to seek out advice and accept being edited.*

Here's what one manager said: *"I see better results working with our off site coworkers."*

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Here's what one spouse said: "*We learned more about computers and the Internet while (my husband) was in MEPP. We learned to manage our time as family better to accommodate his increased work load.*"

### Conclusion

There is no current course, which we have found, which directly compares with this one, in terms of breadth and depth. Most introductory courses confine themselves to use of the course tools, with perhaps a session on program philosophy and group work. The word "program," here is important. The effort needed to master "Network Skills..." is too intensive for a person enrolled in a single distance learning course. It also implies a level of overhead that is difficult to justify to the learner or the sponsoring institution when only one course is involved. The course, as presently taught, presumes an audience comfortable with computer usage and the Internet. It also presumes an audience of students who realize that they need to become more efficient in their online work.

Since the course material is written in modular form and relies on substantial external references, a subset of it could be taught in support of a less intense program. This subset could be taught at a novice, intermediate or advanced level. .

The course is designed to be instructor led and it is also designed for an academic setting. It could be adopted to an industrial setting. It could also be used in an independent study program or a study circle program.. The material in the course is appropriate for anyone significantly involved in working or learning at a distance and it could be subtitled: "Network Skills for Remote Workers." We recently conducted a survey in relation to a new continuing education course on the "virtual office." Only ten percent of those responding to this survey indicated that their company had a formal training program for workers in this setting and none of those thought that their company's program was particularly effective.

In the course, the "reference shelf," is positioned as a long term productivity tool, not just as a resource for an individual course. This approach works well and is confirmed by student evaluations. The overall goal of the course is to provide students with efficient and effective online work habits and procedures and to introduce them to advanced tools that will be useful in their careers, as well as in the program. In this way, *Network Skills...* is an integral part of the MEPP curriculum and much more than an introductory course.

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