Entrepreneurial Training and Technical Assistance Program

in cooperation with

Office of Small and Disadvantaged Business Utilization
US Department of Transportation
400 7th Street, SW
Washington, DC 20590

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Entrepreneurial Training and Technical Assistance Program

by

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Executive Summary

The Entrepreneurial Training and Technical Assistance Program (ETTAP) has been funded by the US Department of Transportation Office of Small and Disadvantaged Business Utilization. The progress of this program through the first year is included in this report.

The major goals of the project consist of:

- teaching firms dealing with the US DOT how to use electronic commerce on Internet,
- establishing Internet account to be used by small, minority and women-owned businesses,
- providing internship opportunities to students so that they can participate in the activities of SWDBE’s, governmental organizations, or participate in research activities of UTEP, and
- providing for faculty and student developmental opportunities.

Two half-day courses have been developed to familiarize the staff of S/DBE’s with the use of the electronic super highway. These two courses are:

- Introduction to Internet & World Wide Web, and
- How to Develop a Web Page

In these courses, the participants learned the basic aspects of "surfing" and browsing the Internet, and ways to develop their own web pages. Seven sessions of these courses were taught, where about 75 people took advantage of this course.

A room has been dedicated to provide assistance to the S/DBE’s. The room is equipped with three IBM-compatible computers, and associated hardware and software to connect them to the Internet. The room is primarily accessible to the S/DBE personnel from 8:00 A.M. to 5:00 P.M. Unfortunately, this facility has not been extensively used by the DBE’s.

Based on our interaction with the participants, the internship has been a success. Both the students and the firms and agencies that are using the interns have given us a very positive feedback.
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Entrepreneurial Training and Technical Assistance Program

Introduction

The Entrepreneurial Training and Technical Assistance Program (ETTAP) has been providing funds to UTEP to collaborate with the USDOT in its goal of including and promoting small, women-owned and disadvantaged business entities (SWDBE’s) in transportation-related business opportunities. As an institution of higher learning, UTEP can be of value to carry out this goal by providing training to enhance the knowledge of SWDBE’s in the transportation field. In addition, given the large number of Hispanic students enrolled at UTEP, the other major goal of this program is to encourage the students to focus in transportation-related studies.

Given this broad goal, UTEP has been involved in several specific areas. These areas include:

1) provide student internships,
2) establish Internet account to be used by small, minority and women-owned business,
3) teach firms how to use electronic commerce on Internet, and
4) faculty and student development.

In the remainder of this report, the processes followed, the results obtained, and the lessons learned from each of these items are described.

The first phase of the ETTAP project at UTEP was initiated in March 1996, and was completed in December 1997. Before the first phase of ETTAP, UTEP had a very fruitful program with the USDOT through the Student Training and Education Program (STEP). Under that program, several new courses were established, an extensive lecture series was carried out, and many students participated in the summer internship. Currently, the second phase of ETTAP, with goals very similar to phase one, is in progress at UTEP. An exciting additional aspect of the new ETTAP program is the Garrett Morgan outreach program, which we feel will positively impact primary, middle and high-school students in the El Paso area.
Student Internships

The student internship, as implemented at UTEP, contains two components. One component consists of involving undergraduates in the ongoing research at UTEP, and the second component was placing students for summer internships in governmental organizations and SWDBE's.

UTEP is one of the most comprehensive Hispanic Serving Institutions (HSI's) in the United States. The University is aggressively involved in research funded by many federal and state agencies. To increase the interest of the students in postgraduate studies, involving them in research during their undergraduate studies is very important. Based on this philosophy, up to four students were selected to participate in research.

In mid-August 1996, the availability of stipends was advertised throughout the college. A copy of the advertisement is included in Figure 1. The monthly stipend, for about 20 hours of work, was $500. Twelve students applied for them. A group of the faculty, comprising of Drs. Nazarian, Oey, Tandon and Walton, evaluated the applications. Three stipend awards were made. Two of the students worked on ongoing transportation-related research projects in the College of Engineering. A stipend was also awarded to a third student to manage the facility developed for the access of SWDBE's.

The criteria for selecting students were their GPA, their letter of interest, and their background. A GPA of 2.50 and above was deemed acceptable. The effort the students put in preparing their letter of interest may exhibit their level of preparedness. Their background may exhibit their commitment to the program.

The first three students were Edward Hernandez, Raymond Guerra, and Allen King. Eddie Hernandez was active in our asphalt research laboratory. He became proficient in preparing specimens and could readily perform tests with a device entitled the
Center for Highway Materials Research

UNDERGRADUATE/GRADUATE RESEARCH STIPEND IN TRANSPORTATION

Disciplines: All Engineering Disciplines
Computer Sciences

To Apply: Please Stop by Room E-220

Provide: Essay indicating your interest
Transcript
Short Resume

Figure 1 - Announcement for ETTAP Stipends
Environmental Conditioning System. His work should yield to a publications shortly. His future plan is to continue his studies as a graduate student.

Ray Guerra was involved in performing nondestructive tests using wave propagation techniques. He routinely collected and reduced data for our research projects. His talents in computer science were also used by our research engineers to develop computer programs. He is still active in our research program.

Allen King was in charge of the ETTAP room as well as developing web pages for the Department and the Center for Highway Materials. In September 1997 he took an offer to work as a research assistant on a NAFTA-related research project.

The students are evaluated monthly. They have to provide a written summary of their activities in the previous month, and the plan of work for the next month. The letters have to be endorsed by their immediate supervisor. The progress and shortcomings of each student are discussed at that time.

The second component of the student training consisted of summer internships. An announcement, similar to one in Figure 1, was issued. A copy of the memorandum issued for the benefit of the students is included in Figure 2. The field of expertise was expanded to include students with majors in Business and Geological Sciences. The stipend for ten weeks of work was set as $2,800. A letter of recommendation from a faculty was also requested.

Three stipends were awarded. Antonio Perea was selected by TxDOT to work in their materials laboratory. He learned about the Superpave asphalt mix design. Mr. Raymond Guerra, his immediate supervisor at TxDOT continually rated him as excellent in cooperation, maturity and competence. In the fall semester, Antonio worked on a research project (funded with TxDOT) dealing with the variation in strength of base materials with degree of compaction. It is anticipated that he will continue his work on that project.
Summer Internship in Transportation Area

The University of Texas at El Paso recently received a grant from the US Department of Transportation to establish a summer internship. The goal of the program is to attract students to the field of transportation by giving them an opportunity to work with professionals on hands-on projects.

A number of state agencies and local firms have agreed to participate in this program. The internship will tentatively consist of ten weeks of full-time work in the summer. For the ten-week summer period, a stipend of $2,800 will be paid.

The field of transportation is quite diverse and requires expertise in numerous fields. Students from Civil Engineering, Geological Sciences, Industrial Engineering, Electrical Engineering, Computer Sciences, and Environmental Sciences will be eligible for these internships. Each agency is free to choose the students based on their areas of interest.

The main guidelines in accepting the students into the program are: 1) Grade Point Average (GPA), 2) Level of Interest of Student, and 3) Faculty Recommendations.

The student can apply after they have completed 45 hours. The student should maintain a minimum GPA of 3.00/4.00 and at least 75 credit hours or a GPA of 2.75 and more than 75 hours. Graduate students should maintain a GPA of 3.50 or higher.

Each student should provide an essay indicating the reasons for her/his interest in the program, the possible benefits she/he anticipates to acquire from the program, and her/his future plans after completing the program. In this manner, the selection committee will be able to assess the basic motivations of the students. A short resume and a transcript is also required.
Daniel Velazco worked with Raba-Kistner, Inc., a SWDBE specialized in geotechnical engineering and material testing. He gained valuable experience both in the office and in the field. His evaluation was consistently satisfactory. In the fall semester, Daniel was a research assistant on a project dealing with cement-stabilized bases. As of Spring 1998, he has become a graduate student, and is assigned to a demonstration project funded by TxDOT on building embankments with tire chips.

Heather O'Connell, who was working with another CSM, Inc., was involved in construction management of the expansion of the El Paso Airport. Heather was well-liked at the company. In August 1997, she accepted a job from a civil engineering firm in California, and is pursing her career.

Establish Internet Account for SWDBE

A room has been dedicated to this purpose (see Figure 3). We have acquired three IBM-compatible computers, and associated hardware and software to connect them to the Internet. The room is primarily accessible to the SWDBE personnel from 8:00 A.M. to 5:00 P.M. A student is available to help in the upkeep of the facility at least part of the time. All the SWDBE personnel have to do is to make an appointment to use the facility. If the computers are free, students involved in transportation research can use them for their research.

The establishment of the facility has been advertised through the El Paso Hispanic Chamber of Commerce, and through the professional societies that are active in the City of El Paso. We have met with the members of the Hispanic Chamber of Commerce, and they have been a great source for attracting the SWDBE’s to the use of the Internet.

In our assessment, the facility is underutilized. The reason for this problem is not known. To improve the use of the facility, we have decided to accumulate a panel of experts from SWDBE’s and state and federal agencies to determine means to promote the center more.
Figure 3 - The ETTAP Computer Center at UTEP
Teaching Electronic Commerce

A day-long short course in this area was developed. The course was developed in close cooperation with UTEP Telecommunication and Computer Center. Dr. Tandon, the instructor, attended several short courses to prepare the lectures necessary for this task. The Dean of the College of Engineering graciously allowed us to use the computer facilities of the college. A picture of the classroom is included in Figure 4. The facility contains about 15 state-of-the-art computers and necessary peripheral.

The classes were held on Saturdays from 8:00 AM to 4:00 PM. Refreshments were provided to students free of charge. The overheads used in the class are included in Appendix A. Two sets of lectures were delivered. In the morning, a basic course on accessing and browsing within the Internet was taught. In the afternoon, an advanced course in developing Worldwide Web pages was provided.

The courses were advertised through the El Paso Hispanic Chamber of Commerce, and through the professional societies that are active in the City of El Paso. A news release to the daily newspaper and major television stations were also carried out. Overall about 500 copies of the information shown in Figure 5 were either directly mailed or distributed in El Paso.

A total of six classes were held with an enrollment of about 75 persons. The evaluation of the instructor and the class were generally high. However, one of our problems was the number of people who would register but did not show up for the class. Toward the end of the program this problem was overcome by registering more people than the number of computers available.

Faculty and Student Development

Professor Oey supervised a group of students representing the UTEP ITE Student Chapter to attend the TexITE annual meeting in Dallas on June 12 through 14, 1997. The students attended that meeting were George Pinal, Eva Acosta, Rene Hartly, Karla
Figure 4 - Classroom Used for Internet Classes
Entrepreneurial Training and Technical Assistance Program

Center for Highway Materials Research
The University of Texas at El Paso
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Office of Small and Disadvantaged Business Utilization

COURSE OFFERING
Electronic Commerce with Internet

Course 1: Introduction to Internet & World Wide Web
Course 2: How to Develop a Web Page

These half-day courses are offered free of charge to employees of Small and Disadvantaged Business Entities. Others associated with the Transportation Field are welcome if space is available. Classes are offered every third Saturday of the month.

For registration or more information please call Ceci Blanco at 915-747-6925

Figure 5 - Announcement for Internet Course
Veranda, Eddie Hernandez and Michael Ramirez. Rene and Karla presented a technical paper entitled “Traffic Analysis of the UTEP Inner Campus,” which was well received.

Dr. Oey also spent two weeks at Texas Transportation Institute (Texas A&M University) learning their transportation course curriculum. He also visited the TxDOT Professional Development Division to arrange the implementation and recruitment of minority graduate students for the TxDOT Master’s Program at UTEP.
Appendix A

Excerpts from Internet Course
Welcome to Entrepreneurial Training Course: Electronic Commerce with Internet
Course Content

- Introduction to Internet (Cyberspace)
- Getting on Line
- Installing Netscape Navigator Gold
- Personalizing Netscape Navigator
- Browsing the Web
- Creating a Web Page and/or Web Site
Internet

- What the Hell is Internet?

- Who Controls It?

- What is Available?

- What are the Components of Internet?
Internet (Cont.)

- A Computer Network
- No One Knows How Many Computers
- No One Knows How Many Users
- But is Expanding at a Rapid Rate
- No One is Incharge
Internet (Cont.)

- Organizations Develop Technical Aspect

- Computers Communicate With One Another Using the Transmission Control Protocol/ Internet Protocol (TCP/IP)
Internet (Cont.)

- Computers Use Client/Server Architecture
- Remote Server Provides Files and Services to User’s Client Machine
- Software can be Installed on a Client Computer
Internet (Cont.)

- Participation in and Access to the Internet is Offered by:
  - Research and Educational Institutions
  - Governmental Entities
  - Private Organizations
  - Commercial Providers
Internet (Cont.)

- Available on the Internet
  - Electronic Mail
  - File Transfer
  - Information Resources
  - Interest Group Membership
  - Interactive Conversations
  - Many Other Things
Components of Internet

- World Wide Web (Web, WWW, W3)
- E-Mail
- File Transfer Protocol (FTP)
- Gopher
- Listservs
- Telnet
- Usenet News
- Wide Area Information Server
Getting On Line

• How to Access the Internet from America On Line, CompuServe, or the Microsoft Network

• How to Access the Internet from Internet Service Provider (local or national)

• How to Access the Internet from an Organization's Local Area Network (LAN)

• Where to Get a Copy of Netscape Navigator 3.0
Getting On Line (cont.)

- What's at Least Needed to Use Netscape Navigator
  - A PC with 486 or Pentium Processor
  - 6 MB RAM (preferably 8 MB)
  - Hard Disk with 5MB of Available Disk Space
  - Windows 95 Installed
  - A connection to the Internet
  - A modem if connecting via a dial-up account
Getting On Line (cont.)

- What’s Needed to Get on Line
  
  ➔ A Network Card Installed in your PC
  
  ➔ A modem ( A Simple Device that Connects your PC to a wall jack for a Telephone Line )
Getting On Line (cont.)

- Choosing a Modem
  - Internal Modem
  - External Modem
  - PC Card Modem
  - Integrated Services Digital Network (ISDN) and Terminal Adapter
Getting On Line (cont.)

- Installing a Modem

- Setting up the Modem
  ➔ Click on the Start Button in the Windows 95
  ➔ Choose Settings | Control Panel
  ➔ Double-click the Modems Icon to get to the Dialog Box
  ➔ Modify the Dialing Preferences by Clicking the Dialing Properties Button
• Testing The Modem

➔ At the Windows 95 desktop, Click the Start Button and Choose Programs \ Accessories \ Phone Dialer

➔ Click or type in any Telephone number and then Click on the Dial Button
Getting On Line (cont.)

- Three Ways to Get Connected to the Internet
  - A Commercial On-line Service (America On-line, CompuServe, etc...)
  - A National or Local Internet Service Provider (ISP)
  - Your Organization or Company’s Permanent LAN Connection
Getting On Line (cont.)

- Connecting Through America On-line (AOL)
  ➔ Sign onto America On-line in the Usual Manner
  ➔ In the Spotlight Window Click on Go To Main Menu
  ➔ Click on Internet Connection and You are on the Internet
  ➔ Click on FAQ, if you are a Newbie
  ➔ Choose Go To Keyword
  ➔ Type Netscape and you are there
Installing Netscape Navigator

- Buying Netscape Navigator
- Installing Netscape (from Floppy Disk or CD)
  ➔ Insert the Setup Disk in Your Computer’s a: drive or CD drive
  ➔ Close All Open Programs
  ➔ Click the Windows 95 Start Button and Choose Settings | Control Panel
  ➔ Double-click the Add/Remove Programs Icon
  ➔ Click the Install Button and Then Follow the Instructions on the Screen
Personalizing Netscape Navigator

- Quick Tour of the Features for Personalizing Netscape
- How To Change Netscape Appearance
- How to Improve Netscape Performance
Personalizing Netscape Navigator (cont.)

- General Preferences
- Editor Preferences
- Mail and News Preferences
- Network Preferences
- Security Preferences
Personalizing Netscape Navigator (cont.)

- General Preferences
  - Appearance, Fonts, Colors, Images Tabs
  - Apps Tab specifies Location of Supporting Applications Like Telnet, FTP, Etc...
  - Helpers Tab Controls Netscape’s File Interpretation
  - Language Tab
Browsing The Web

- What’s on the Screen
- Going to a Specific Site
- Using Hyperlinks
- Visited and Unvisited Site
- Popping Back to a Recent Page
- Reload
- All the Way Home
- Stop
Browsing The Web (cont.)

Net Search

- Excite
- Infoseek
- Lycos
- Magellan
- Yahoo
Common Acronym

- World Wide Web (WWW)
- Uniform Source Locator (URL)
- HyperText Markup Language (HTML)
- HyperText Transfer Protocol (http)
- Virtual Reality Markup Language (VRML)
Why Create A Web Site

- Web Publishing for Fun of it
- Sharing Hobbies, Collections and Interests
- Meeting People
- Being Published
- Promoting a Skill or Service
- Profit
- Selling Advertising Space
- Creating a Subscription Newsletter
Creating Your Own Web Page

- Create a Folder For Your Site
- What to Name Your Home Page
- Three Ways to Create Your First Home Page

- Netscape Page Wizard
- Netscape Template
- Create the Page From Scratch
Finding A Home For Your Web Page

- Defining Your Needs
- Choosing: Personal and Commercial Site
- Shopping Around for Web Server Space
Any Questions??????

Comments ??????????