

#172.2



Name: Rudolph, Kim

U.S. Department of Education  
Office of the Deputy Secretary/Budget Service - Control Document

Assigned to: ODS/BS

Control #: BS01-01173  
ODS/BS Doc #: 6660

Action: REVIEW/COMMENT  
Signature:

Doc. Type: OMB  
Due Date: 04/23/2001

Writer: Rudolph, Kim  
Title:  
Organization: RIMG  
Salutation:

Subject: REQUEST FOR OMB REVIEW: INFORMATION TECHNOLOGY SKILL  
CERTIFICATION CASE STUDY (INFORMATION TECHNOLOGY EXTERNAL  
CERTIFICATION PROGRAM)

Notes:

----- Assignment Tracking Section -----

ASSIGNED	COMMENT	DATE	DUE	COMPLETED
<del>CICHOWSK</del> Jones	REVIEW/COMMENT	04/11/2001	04/23/2001	
Hart	→ minor text edits			5/9/01
Houser	OMB may disapprove \$25 payment to respondents			5/9/01
	No substantive comments			
	Couple of minor edits (suggested)			
	L B Jones ODS/Budget/DESVA 5/10/01			

Keyer: MTW

Reader: MTW

Related Control #:

# RIMG RECEIPT CONTROL

PLEASE SIGN AND DATE AS INDICATED UPON RECEIPT.

ANALYST:	Kathy Axt 703-426-9692	[ ]
	Sheila Carey 708-6287	[ ]
	Jackie Montague 708-5359	[✓]
	Joe Schubart 708-9266	[ ]
		[ ]

OMB NUMBER

1875-NEW

TITLE

Information Technology Skill Certification  
Case Study (Information Technology  
External Certification Program)

PROGRAM OFFICE

- OGC
- OESE
- OSERS
- OVAE
- OPE
- OERI
- OTIA
- OUS
- OM
- OBEMLA
- OTHER

FROM: RIMG CONTROL DESK

FOR BUDGET AND PLANNING USE ONLY – HIGHLIGHT THE NAME OF THE REVIEWER

	Signature:				Date:		
Alan Ginsburg, PES	401-3132	Angel Clarke	""	Valerie Sciarra	401-0333	James Butler	401-0311
Sandra Richardson	""	Sarah Abernathy	401-3600	Lee Terry	401-3037	John Chapman	401-0309
Axalea Saunders	""	Sandra Furey	401-4614			David Cleary	205-9963
Genise Cooke	""	David Goodwin	401-0263	Linda Chiamonte, ABAD	401-1288	Larry Cohen	401-0310
Jennifer Ballen	401-0618	Elizabeth Eisner	401-1857	Faith Turner	401-7919	James Houser	401-0307
Adriana de Kanter	401-3132	Michael Fong	401-7462	Howard Brayer	401-0604	Lonna Jones	401-0312
Quinton Washington	205-5798	Frank Forman	401-3624	Coleatha Carter	401-1738	Robert Davidson, PAD	401-0675
Julie Pederson	401-2871	Andrew Lauland	401-3518	Patricia James	401-7882	Betty McRoy	"
Nancy Rhett	401-1679	James Maxwell	401-3571	Debra Scites	260-5289	Eleanor Briscoe	401-1201
Lenore Garcia	401-3036	Daniel Morrissey	401-3619	Winifred Shapiro (PT)	401-1751	Mark Traversa	401-0122
Shirley Sands	401-0430	Ann Nawaz	401-5344	Susan Taylor	401-1392	Phillip Juengst	260-1760
Samuel McKee	""	Stacy Kotzin	401-5938	Elizabeth Witherspoon	401-0229	Navneeta Chandra	401-7543
Betty Ward	""	Audrey Pendleton**	401-3630	William Graham, CEA	<del>401-0975</del>	Carol Cichowski, SERRAD	401-3939
Christopher Winkler*	""	Steven Zwilling	401-1678	Janice Matthews	401-0290	Kelly Munger	401-7320
		Thomas Skelly, Budget	401-1700	William Carrington	401-1848	Krystal Southall (PT)	401-3940
		Marie Wade	""	Mike Carpenter	401-0336	Laurie Collins	401-3981
Yvonne Briscoe	""			Kimberly Carroll	401-3870	Gregory Frane	401-3948
Joanne Bogart	401-0276			John Kane	401-1859	Wava Gregory	401-1345
Melissa Chabran	401-1265	Bill Cordes	""	Larry Kean	401-0330	Ellen Weiss	401-3947
Martha Chavez	401-8368	James Hazzard	""	Shannon Mahan	401-0328	Mark Snyderman	401-1949
Barbara Coates	401-1232	Jan Solomon	""	Robert Mercer	401-9031	Judith Anderson	401-3941
Katherine Doherty	401-0264	Susan Weiner, BPCS	401-1845	Rachael Bauer	401-2931		
Daphne Harcastle	401-7949	Sandra Johnson	401-0320	Kirk Siegwarth	401-0338		
Tracy Rimdzius	401-1259	Marilyn Bechtold	401-1844	Robin Pugh	401-2152		
Mary Rollefson	401-0274			Mark Santucci	260-8975		
Jeffrey Rodamar	204-5046	Ray Hamilton	401-1763				
Colette Roney	401-0886	Martha Jacobs	401-0098				
Susan Sanchez	401-0886	Nancy Martin	401-0292	Alan Baldinger	401-0976		
Elois Scott **	401-0274	Kathleen McAuliffe	401-1847	Michael Ward	401-5949		
Stephanie Stullich	401-0091			Daniel Simpson	401-0122		
Susan Thompson-Hoffman	401-0091	Trina Lawson, BECS	401-1391	Thomas Corwin, DESVA	401-0318		
Lisa Towne	205-5798	Kathleen Guy	401-2227	Laurette Crum	205-9149		
Joanne Wiggins	401-2266			Ian Soper	401-0907		
Ricky Takai**, PAVED	401-3630	Ann Kibler	401-3946	Chelsea Hart	401-0317		
Daniel Goldenberg	401-3562			Barbara Broadnax	401-0318		

PLEASE REVIEW AND RETURN COMMENTS TO: RIMG, ROB3, RM. 4050 ATTENTION: KIM RUDOLPH

NO LATER THAN Apr. 24, 2001

*Marie Wade 4/11/01*

Montague

1875-NEW

Due Date - Apr. 29, 2001

# PAPERWORK REDUCTION ACT SUBMISSION

Please read the instructions before completing this form. For additional forms or assistance in completing this form, contact your agency's Paperwork Clearance Officer. Send two copies of this form, the collection instrument to be reviewed, the Supporting Statement, and any additional documentation to: **Office of Information and Regulatory Affairs, Office of Management and Budget, Docket Library, Room 10102, 725 17th Street, NW, Washington, DC 20503.**

1. Agency/Subagency originating request: U.S. Department of Education/OUS/Planning and Evaluation Service	2. OMB control number: a. _____ - _____ b. (X) NONE: <u>1875-NEW</u>
3. Type of information collection (check one): a. <input checked="" type="checkbox"/> New collection b. <input type="checkbox"/> Revision of a currently approved collection c. <input type="checkbox"/> Extension of a currently approved collection d. <input type="checkbox"/> Reinstatement, with change, of a previously approved collection for which approval has expired e. <input type="checkbox"/> Reinstatement, without change, of a previously approved collection for which approval has expired f. <input type="checkbox"/> Existing collection in use without an OMB control number	4. Type of review requested (check one): a. <input checked="" type="checkbox"/> Regular (if streamlined also check here <input type="checkbox"/> b. <input type="checkbox"/> Emergency - Approval requested by: ___/___/___ c. <input type="checkbox"/> Delegated 5. Small entities: Will this information collection have a significant economic impact on a substantial number of small entities? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 6. Requested expiration date: a. <input checked="" type="checkbox"/> Three years from approval date b. <input type="checkbox"/> Other -- Specify: ___/___/___
7. Title (10-15 words maximum): Information Technology Skill Certification Case Study	
8. Agency form number(s) (if applicable):	
9. Keywords: Information Technology, Occupational Education, Skill Certification	
10. Abstract: Case studies of selected high school and community college IT programs offer some basic information about IT certification classes, a growing program at both levels. The case study encompasses three data collection components: (1) a survey of students from 10 high schools and 10 community colleges who completed an IT skill certification class in school year 1999-00, (2) site visits to half of these high schools and colleges, and (3) telephone interview with selected staff from the remaining schools.	
11. Affected Public (mark primary with "P" and all others that apply with "X") a. <input type="checkbox"/> Individuals or households b. <input checked="" type="checkbox"/> Businesses or other for-profit c. <input checked="" type="checkbox"/> Not-for-profit institutions d. <input type="checkbox"/> Farms e. <input type="checkbox"/> Federal Government f. <input checked="" type="checkbox"/> State, local or Tribal Gov't, SEAs or LEAs	12. Obligation to respond (Mark primary with "P" and all others that apply with "X"): a. <input checked="" type="checkbox"/> Voluntary b. <input type="checkbox"/> Required to obtain or retain benefits c. <input type="checkbox"/> Mandatory
13. Annual reporting and recordkeeping hour burden: a. Number of respondents 300 b. Total annual responses 300 Percentage of these responses Collected electronically 0 % c. Total annual hours requested 70 d. Current OMB inventory 0 e. Difference (+/-) 70 f. Explanation of difference 1. Program change 70 2. Adjustment	14. Annual reporting and recordkeeping cost burden (in thousands of dollars): a. Total annualized capital/startup costs _____ 0 b. Total annual costs (O&M) _____ 0 c. Total annualized cost requested _____ 0 d. Current OMB inventory _____ 0 e. Difference (+/-) _____ 0 f. Explanation of difference 1. Program change _____ 2. Adjustment _____
15. Purpose of information collection (mark primary with "P" and all others that apply with "X"): a. <input type="checkbox"/> Application for benefits b. <input checked="" type="checkbox"/> Program evaluation c. <input type="checkbox"/> General purpose statistics d. <input type="checkbox"/> Audit e. <input checked="" type="checkbox"/> Program planning or management f. <input checked="" type="checkbox"/> Research g. <input type="checkbox"/> Regulatory or compliance	16. Frequency of recordkeeping or reporting (check all that apply): a. <input type="checkbox"/> Recordkeeping b. <input type="checkbox"/> Third party disclosure c. <input type="checkbox"/> Reporting 1. <input checked="" type="checkbox"/> On occasion 2. <input type="checkbox"/> Weekly 3. <input type="checkbox"/> Monthly 4. <input type="checkbox"/> Quarterly 5. <input type="checkbox"/> Semi-annually 6. <input type="checkbox"/> Annually 7. <input type="checkbox"/> Biennially 8. <input type="checkbox"/> Other (describe) _____
17. Statistical methods: Does this information collection employ statistical methods? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	18. Agency contact (person who can best answer questions regarding the content of this submission): Name: <u>Elizabeth Warner</u> Phone No.: <u>(202) 401-3600</u> Fax No.: <u>(202) 401-3845</u>
19. Regulatory information (information provided in this block will be used to improve the processing of the information collection): a. Does this collection contain a proposed regulation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, check item that applies: <input type="checkbox"/> NPRM <input type="checkbox"/> Final <input type="checkbox"/> Other _____ b. List all sections that apply to this collection that have paperwork burden:	(Continuation of 18)

**20. Certification for Paperwork Reduction Act Submissions**

On behalf of this federal agency, I certify that the collection of information encompassed by this request complies with 5 CFR 1320.9.

NOTE: The text of 5 CFR 1320.9, and the related provisions of 5 CFR 1320.8 (b)(3), appear at the end of the instructions. *The certification is to be made with reference to those regulatory provisions as set forth in the instructions.*

The following is a summary of topics, regarding the proposed collection of information, that the certification covers:

- (a) It is necessary for the proper performance of agency functions;
- (b) It avoids unnecessary duplication;
- (c) It reduces burden on small entities;
- (d) It uses plain, coherent, and unambiguous terminology that is understandable to respondents;
- (e) Its implementation will be consistent and compatible with current reporting and recordkeeping practices;
- (f) It indicates the retention periods for recordkeeping requirements;
- (g) It informs respondents of the information called for under 5 CFR 320.8 (b)(3)
  - (i.) Why the information is being collected;
  - (ii.) Use of information;
  - (iii.) Burden estimate;
  - (iv.) Nature of response (voluntary, required for a benefit, or mandatory);
  - (v.) Need to display currently valid OMB control number;
- (h) It was developed by an office that has planned and allocated resources for the efficient and effective management and use of information to be collected (see note in Item 19 of the instructions);
- (i) It uses effective and efficient statistical survey methodology; and
- (j) It makes appropriate use of information technology.

If you are unable to certify compliance with any of these provisions, identify the item below and explain  
The reason in Item 18 of the Supporting Statement

Signature of Senior Official or designee	Date
--	------

**For Department of Education Internal Use**

I certify that the information collection being submitted to the Senior Official, or designee, encompassed by this request complies with 5 CFR 1320.9, as summarized above. *(Assistant Secretary signature required for emergency reviews.)*

Signature of Assistant Secretary or designee	Date
--	------

Contract No.: EA95010001  
MPR Reference No.: 8292

**MATHEMATICA**  
Policy Research, Inc.

**Information Technology  
Skill Certification Case  
Study**

**Supporting Statement for  
Request for OMB Approval  
of Information Technology  
Student Survey and Site  
Visit Protocols**

*Draft*

*March 27, 2001*

*Julie Fishstein  
Joshua Haimson  
Alan Hershey  
Laura Kalb  
Michelle Van Noy*

Submitted to:

U.S. Department of Education  
Planning and Evaluation Service  
400 Maryland Avenue., SW  
Room 6W306  
Washington, DC 20202

Attention:  
David Goodwin

Submitted by:

Mathematica Policy Research, Inc.  
P.O. Box 2393  
Princeton, NJ 08543-2393  
Telephone: (609) 799-3535  
Facsimile: (609) 799-0005

Project Director:  
Alan Hershey

# CONTENTS

	Page
A. JUSTIFICATION .....	1
1. Circumstances Necessitating the Data Collection .....	1
2. How, By Whom, and for What Purposes Is the Information to Be Used? .....	2
3. Using Improved Technology to Reduce Burden .....	9
4. Efforts to Identify Duplication .....	9
5. Methods to Minimize Burden On Small Businesses or Entities .....	10
6. Consequences of Less Frequent Data Collection .....	11
7. Special Circumstances Requiring Collection Methods Inconsistent with Guidelines.....	11
8. Federal Register Notice .....	12
9. Payments to Respondents .....	12
10. Confidentiality Assurances.....	12
11. Additional Justification for Sensitive Questions .....	13
12. Estimate of Burden of the Data Collection.....	13
13. Estimated Capital, Operating, and Start-Up Costs to Respondents or Recordkeepers.....	15
14. Estimated Costs to the Federal Government .....	15
15. Changes in Burden .....	15
16. Tabulation and Publication Plans and Time Schedules for the Project.....	16
17. Reasons for Not Displaying Expiration Date of OMB Approval.....	16
18. Exceptions to the Certification Statement Item 19.....	16
B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS.....	17
1. Respondent Universe and Sampling.....	17
2. Information Collection Procedures.....	19
3. Methods to Maximize Response Rates.....	21
4. Test of Procedures .....	22
5. Statistical Consultants .....	22
REFERENCES.....	23
APPENDIX A: IT STUDENT SURVEY HIGH SCHOOL IT CLASS ENROLLEES	
APPENDIX B: IT STUDENT SURVEY COMMUNITY COLLEGE IT CLASS ENROLLEES	
APPENDIX C: IT SITE VISIT DISCUSSION GUIDE	

## TABLES

Table	Page
1 IT SKILL CERTIFICATION CASE STUDIES RESEARCH QUESTIONS AND DATA SOURCES .....	4
2 RESPONSES AND BURDEN: IT CASE STUDY .....	14

## A. JUSTIFICATION

### 1. Circumstances Necessitating the Data Collection

Throughout the nation, states and local communities are pursuing new strategies to help young Americans develop the competencies and credentials needed to achieve their career goals. One strategy embraced by many policymakers and educators is to help students obtain skill certificates developed and recognized by employers within specific industries. Information Technology (IT) skill certificates are among the most popular new credentials, growing considerably faster than most other industry recognized certificates. Among the most popular new IT credentials are certificates endorsed by specific companies—such as Microsoft, Cisco, and Novell—which have developed their own tests to assess and document students' skills (Adelman 2000). Many high schools and community colleges—as well as private educational institutions—are now offering classes that help students prepare for these company-specific IT certification tests. Several factors contributed to schools interest in preparing students for these credentials:

- **The School-to-Work Opportunities Act (STWOA)**—The STWOA provided five years of seed money to states and local partnerships of schools, employers, and other groups seeking to help students prepare for careers. Among other things, the legislation encourages high schools to offer programs of study combining academic and technical instruction, internships, and opportunities to earn skill certificates documenting that the student has acquired skills valued by employers.
- **The National Skills Standards Act (NSSA)**—The NSSA encouraged the development of broad certifications based on industry-wide standards. In addition to creating a national process for facilitating the development of industry-specific skill standards, the legislation added to the momentum at the state and local levels to help students secure skill certificates.
- **Reports of high wages for IT certificate holders**—The IT companies that have developed new certificates have promoted these new credentials by issuing reports indicating that students earning IT certificates have succeeded in obtaining high wage jobs. The reports suggest that certificate holders with little postsecondary education

can secure attractive jobs. These claims have further heightened interest in programs that prepare students for the certification exams.

Because most of IT skill certificate programs are new, relatively little is known about them. While some Microsoft-sponsored reports suggest that graduates of these programs have high average wages, these reports are based on email questionnaire surveys with low response rates. Moreover, these reports do not provide separate estimates of the outcomes of students graduating from high school or community college programs. Very little information is available about the mix of students in these programs, their average costs, or the challenges school staff face when they first offer an IT skill certificate class.

To provide some basic information about these IT certification classes, ED has asked the evaluation team to conduct a case study of selected high school and community college IT programs including an analysis of implementation issues and student outcomes. This case study will encompass three data collection components: (1) a survey of students from 10 high schools and 10 community colleges who completed an IT skill certification class in school year 1999-2000, (2) site visits to half of these high schools and community colleges, and (3) telephone interviews with selected staff from the remaining schools.

## **2. How, By Whom, and for What Purposes Is the Information to Be Used?**

As the contractor that the Department of Education (ED) selected to conduct the National Evaluation of School-to-Work Implementation Mathematica Policy Research, Inc. (MPR), is collecting and analyzing the data for this evaluation. This study is designed to inform Congress, the U.S. Departments of Education and Labor, state agencies, local STW partnerships, school officials, and employers. Specifically, the IT case study is designed to shed light on the role, implementation challenges, and some of the potential benefits of IT skill certification programs.

The study will be focused on addressing six main issues of interest to federal and state officials and local school staff:

1. How large are these certification programs?
2. Which kinds of students do the case study programs tend to attract?
3. Why did the case study schools introduce these programs?
4. What is the design of the case study programs and how do they differ from the schools' traditional IT programs?
5. What are the costs and resources needed to implement programs successfully?
6. What are the outcomes of students in the case study programs?

Table 1 identifies some of the detailed questions that fall under each of these six broad issues and the data sources that will address each question. The three main data sources for the study will be the student survey, the site visits, and the telephone interviews with program staff. In addition, to place the findings in context and to gauge the total number of students participating in various types of certification programs, the analysis will also make use of public data from the certification companies sponsoring the skill certifications.<sup>1</sup>

**IT Student Survey.** Mathematica will conduct a telephone interview of students who enrolled in IT skill certificate programs in school year 1999-2000 in 10 high schools and 10 community colleges. The survey sample will include approximately 300 students enrolled in high school and community college IT certification classes in school year 1999-2000. Mathematica staff will assemble this sample by requesting from schools lists of students who had been enrolled in IT certification classes. The sample will include both students who earned skill

---

<sup>1</sup>For example, Microsoft, the company responsible for the most certifications has information on its website on the number and location of schools offering skill certification programs and the number of individuals who have been certified to date.

TABLE 1

IT SKILL CERTIFICATION CASE STUDIES  
RESEARCH QUESTIONS AND DATA SOURCES

Research Question	Student Survey	Site Visits and Staff Phone Interviews	Other Sources
<b>1. How Large and Prevalent Are IT Certificate Classes?</b>			
1.a How many individuals have received specific types of IT skill certificates (through all types of programs). How many have received these certificates from high school and community colleges in particular?			X <sup>a</sup>
1.b How many high school and community colleges prepare students for IT certificates tests?			X <sup>a</sup>
1.c How rapidly are high school and community college case study programs expanding?		X	
<b>2. Which Students Participate in Case Study IT Programs and What Attracts Them To the Programs?</b>			
2.a What are the background characteristics of students in case study IT classes? To what extent do programs attract students with low grades in other courses?	X	X	
2.b How does the background of students in these classes compare with that of other high school students and/or vocational concentrators?		X	
2.c What are these students' career goals and to what extent are they focused on IT occupations?	X	X	
2.d How does the background and goals of the students earning certificates compare with other students in these IT classes who do not earn certificates?	X	X	
2.e How does the background and goals of students in high school IT classes compare with those in college IT classes?	X	X	
2.f How do case study schools recruit and screen applicants for these classes and how do recruitment and screening practices influence mix of students participating? To what extent do classes have admissions requirements?		X	
2.g What are the main reasons students decided to participate in IT classes? Do they appear to achieve their objectives for participating?	X	X	
2.h What are the challenges in attracting appropriate students to these classes and engaging them in curriculum?		X	
<b>3. Why Do Case Study Schools Introduce IT Certificate Classes?</b>			
3.a What were the original reasons schools introduced these classes? What were the perceived benefits for institution and students? What were the stated objectives?		X	
3.b Which staff or outside groups actively supported development of these classes and how did they lend their support?		X	

TABLE 1 (continued)

Research Question	Student Survey	Site Visits and Staff Phone Interviews	Other Sources
3.c To what extent do key staff perceive that their original objectives were achieved?		X	
<b>4. What Is the Design of These Classes and How Do They Fit Into Students' Programs of Study?</b>			
4.a How do these classes differ from traditional IT classes and programs in case study schools? (for example, their average class size, learning objectives, and curriculum)		X	
4.b To what extent are students encouraged to complete sequence of IT related classes?		X	
4.c What types of skills do these classes try to develop? To what extent are programs focused on preparing students for certification test as opposed to developing a broader set of skills?		X	
4.d Where does the curriculum come from? To what extent do instructors rely primarily on curriculum developed by certification companies, other vendors, or local teachers?		X	
4.e How do programs recruit and train teachers? Which types of teachers are best suited for these programs?			
4.f Do schools make use of or need technical assistance to adapt curriculum, articulate with (other) postsecondary programs, or add components that address skill needs of local employers?			
4.g To what extent do schools offer students internships while they are in school? How many of these internships reinforce skills covered by curriculum or certification tests?	X	X	
4.h Are all students in these classes expected to take the certification tests? Is passing the test the main criteria for assessing student or program performance?			
4.i What are schools' job placement objectives and what placement services are offered to students in IT classes?		X	
4.j Are the IT classes articulated with (other) postsecondary programs?		X	
<b>5. What Are The Costs And Resources Needed To Implement Programs Successfully?</b>			
5.a. What are the typical total costs and cost per enrollee of IT skill certificate programs?		X	
5.b How do costs compare with those of traditional IT vocational programs or other vocational programs?		X	
5.c. What are the main sources of funding and staff support for programs ?		X	

TABLE 1 (continued)

Research Question	Student Survey	Site Visits and Staff Phone Interviews	Other Sources
<b>6. What Are The Outcomes Of Students In Case Study Programs?</b>			
6.a. What fraction of students enrolled in IT classes pass certification tests?	X	X	
6.b. What are graduates' wages and postsecondary education and how do they compare to other (similar?) students?	X		
6.c. To what extent do graduates jobs or postsecondary programs draw on the skills, credentials, or credits they secured in their IT program?	X	X	
6.d. What fraction of graduates secure IT jobs or enter IT postsecondary programs with the assistance of school staff.	X	X	
6.e. Which job placement strategies seem to be effective?	X	X	
6.f. How do the outcomes of graduates of IT high school programs compare with those of IT community college programs?	X	X	
6.g. How do outcomes of those earning certificates compare with other program graduates?	X	X	

<sup>a</sup>NCES/Westat survey of postsecondary programs' skill certificates; Cliff Adelman report on IT skill certificates; data released by Microsoft on number of certificate holders and schools offering classes designed to prepare students for certification tests.

certificates as well as those who took the class but did not earn a certificate, permitting a comparison of the background and goals of these two groups. The IT student survey instrument is designed to secure information on students' background, goals, assessment of their IT class, occupations and wages, and the extent to which their educational and employment experiences remain focused on the IT sector. There are two versions of the IT student survey one for the sample who took the IT class during high school (Appendix A) and one for the sample who took an IT class at a community college (Appendix B). Most of the questions in these two instruments are identical however there are some differences. For example, the community college instrument contains some additional questions pertaining to whether the IT class was taken as part of a specific college program and, if so, the nature of that program (section D of the instrument). Because the contact information available on some students is likely to be incomplete, the response rate on the IT student survey is expected to be about 70 percent, yielding responses for approximately 210 students ( $300 * .7$ ).

**IT Site Visits and Protocol.** The evaluation team will conduct site visits to 5 of the 10 high schools and 5 of 10 community colleges covered by the IT student survey.<sup>2</sup> During the five two-day visits one day will be spent largely at one of the high schools and the second day will be spent at one of the community colleges. (The school selection process will ensure that each of the 10 case study high schools is in the same labor market area as one of the case study community colleges.) At each school, site visitors will interview several people. In most cases these respondents will include a school administrator, an IT instructor, a group of about 3 to 5 students, and one or two employer partners that have offered internships or jobs to students.

---

<sup>2</sup>The telephone interviews of school and employer staff will cover the remaining 5 high schools and 5 community colleges.

The site visit interviews will make use of a semi-structured discussion guide (Appendix C). This protocol includes distinct questions for three groups of respondents: teachers and administrators, students, and employers. The questions for teachers and administrators focus on the school's rationale for introducing the IT skill certification classes; the design of these classes and how they differ from traditional IT programs; the way in which school staff recruit and screen students for the IT classes; and the costs of introducing and operating the IT skill certification classes (the advance letter will identify the specific cost information that will be requested during the visit). The student protocol will guide the group discussion with students about their career goals, their motivation for participating in the class, and the aspects of the class that they like or dislike. Employer partners will be asked to describe the types of IT jobs in their organizations and the value of certificates in evaluating candidates for these positions, employers' role in hiring students, any input they have provided to school staff regarding the IT program design or curriculum, and their perceptions of the strengths and weaknesses of the IT program and the students graduating from it.

**IT Staff Telephone Interviews.** Mathematica professional staff will conduct telephone interviews with the school and employer staff associated with the remaining five high schools and five community colleges that are not visited. At each of these schools, interviews will be conducted with one administrator or instructor. The study team will also interview an employer partner in about half of these schools. (Some schools may not have any such employer partners.) In total, the study team will interview about 15 individuals associated with the 10 schools. Each of these telephone interviews will last approximately 40 minutes. The interviewers will use a condensed version of the site visit protocol for teachers/administrators and employers. This condensed version, which will be developed following the first site visit, will touch on most of the main topics and questions covered in the site visit protocol but will not cover many of the

detailed sub-questions relating to each of these main topics. When combined with the site visit discussions, these telephone interviews will broaden the study's information base, enhancing the analysis of the range of program designs, typical implementation challenges, and costs of the IT classes.

### **3. Using Improved Technology to Reduce Burden**

Mathematica staff will take advantage of information on the certification companies' public websites to develop a list of schools with IT classes whenever this is possible. Mathematica will also request from both the certification companies and the case study schools the email addresses of students in the IT student sample. If Mathematica is able to obtain email addresses for many sample members, survey staff will send these individuals an e-mail message indicating the purpose of the survey and when they are likely to be contacted by telephone interviewers. The message will allow them to e-mail back a preferred appointment time and number where they can be reached. The message will also include the toll-free number to call at their convenience to complete the survey.

Because the IT student survey sample is small and the instrument is simple, Mathematica will use a hard copy rather than CATI instrument. The sample size is only 300 and consequently CATI technology would not be cost effective. Fortunately, the instrument is relatively simple, having only a modest number of skip instructions; consequently a hard copy instrument will be easy for interviewers to use and cost effective.

### **4. Efforts to Identify Duplication**

There are few existing sources on IT skill certification programs and none of these sources contain the kinds of information that the IT skill certification case study will provide. Thus for example, a recent Office of Educational Research and Improvement report provides some useful

data on IT certifications but contains very little information on high school and community college IT programs and the graduates of these programs (Adelman 2000). One of the few case studies on high school IT programs is a Microsoft-sponsored study covering a small set of Wyoming high school IT programs (Aoki 1997). However, this case study contains little information on participating students or their outcomes. Moreover, since all of the case study schools were in Wyoming (the first state to introduce a Microsoft certification program in a high school), the case study covers a very narrow range of implementation environments.

## **5. Methods to Minimize Burden On Small Businesses or Entities**

Some schools and businesses will be involved in the IT skill certification study and some of them may be small. Mathematica staff will minimize burden on participating schools and businesses in several ways.

To reduce the burden on school staff Mathematica staff will make sure to be sensitive to the individual roles of these staff, their schedules, and their preferred modes of communication. First, after making initial contact with the office of the principal of a high school or president of a college, Mathematica staff will ask to be referred to whoever can most easily provide the basic types of information needed on the school's IT program. The primary information needed at this point will be the number of students who completed each IT certification class in school year 1999-2000. Second, before asking whether a school is willing to participate in the study, Mathematica staff will make sure to clearly spell out the types of student contact information that will be requested for the IT student survey, the length and scope of the site visits, and the length of the telephone interviews with staff. Third, when Mathematica staff schedule the site visits they will provide schools with several alternative dates and allow school representatives to select

days that are most convenient for them. Fourth, in advance of their visits, the site visitors will send schools an outline of the main topics they would like to discuss during the visit.<sup>3</sup>

Mathematica staff will also take steps to reduce the burden on the employers interviewed on site and by telephone. The Mathematica researchers will ask each of the case study schools to select employer partners that are likely to be interested in discussing their experiences and have a staff member who is available to share this information. The employer interviews will be scheduled at times that employer staff indicate are convenient for them.

## **6. Consequences of Less Frequent Data Collection**

The IT skill certification study is designed to both provide some preliminary insights relating to the positive and negative claims made on behalf of IT programs and clarify some of the outstanding questions that could be addressed by future studies. For example, by providing some information on students' outcomes, the study will provide an initial basis for judging program advocates' claims that graduates earn high wages. The information on program costs will provide some basis for assessing concerns that these programs can be expensive to implement. Based on this study's findings, ED will be able to determine whether a <sup>more</sup> ~~most~~ costly and comprehensive national study is warranted and, if so, which research questions that study should address. | ✓

## **7. Special Circumstances Requiring Collection Methods Inconsistent with Guidelines**

The data will be collected in a manner consistent with the guidelines.

---

<sup>3</sup>In advance of the visit, Mathematica staff will fax staff a list of the few quantitative pieces of information that will be requested during the visit including estimates of the costs and funding sources for the IT classes.

## **8. Federal Register Notice**

A copy of the agency's notice soliciting comments on the information collection is attached to this clearance request package.

## **9. Payments to Respondents**

For the IT Student Survey Mathematica will offer a \$25 incentive to all qualified students that complete the telephone survey. This size incentive is needed and appropriate because Mathematica has no prior relationship with any of the students and no program staff will be able to encourage the students to participate. In addition, with our relatively modest overall sample sizes, it is important to gain cooperation; the value of each additional respondent is non trivial and surpasses the cost of the incentive.

## **10. Confidentiality Assurances**

This study is being conducted in accordance with all relevant regulations and requirements, including the Privacy Act of 1974 (5USC 552a), the Privacy Act Regulations (34 CFR Part 5b), and the Freedom of Information Act (5 CFR 552) and related regulations (41 CFR Part 1-1, 45 CFR Part 5b, and 40 CFR 44502). Data collected about individual students for this evaluation is not, and will not be, released with personal identifiers attached. Data on students participating in the study is published in aggregate statistical form only. A statement to this effect is included in the introductory statement to the IT Student Survey. In addition, this statement is made in our advance letters sent to sample members and participating institutions. Finally, the site visit interview guide includes an introductory statement to this effect.

The practices and policies of MPR are designed to protect confidential data. MPR requires that employees and consultants sign pledges to protect the confidentiality of survey respondents. The issues of consent and confidentiality are covered in the training sessions for all MPR staff

involved with the administration of the IT skills certification study. In addition, access to sample selection data is limited to those who have direct responsibility for sample selection. Individual identifying information is maintained separately from hard copy data collection forms and from computerized data files prepared for conducting the analysis.

Collection of data on individual students is contingent on informed consent. The IT Student Survey as well as site visits to schools are voluntary, and all respondents are told so when they are contacted and in any letters sent to them.

### **11. Additional Justification for Sensitive Questions**

There are no sensitive questions in either the IT Student Survey or the site visit interview guides.

### **12. Estimate of Burden of the Data Collection**

The total burden associated with the IT case study is approximately 150 hours (Table 2). Detailed estimates of the burden for each data collection component are described below.

The IT student survey is administered by telephone and will take about 20 minutes (.33 hours). The sample for this survey will include 300 students (150 from the high school and 150 from Community Colleges). The response rate for this survey is likely to be approximately 70 percent, yielding 210 responses ( $300 * .7$ ). Thus the burden for this survey is 70 hours ( $210 * .33$ ).

The five two-day site visits will include interviews with teachers, program administrators, employer partners, and students at both high schools and community colleges. One of the two days will focus on a high school and the second on a community college. In the course of each day the site visitors will interview approximately 7 individuals (these are likely to include 2 school staff, 1 employer staff member, and 4 students). Hence Mathematica staff will interview

TABLE 2  
 RESPONSES AND BURDEN:  
 IT CASE STUDY

	Number of Respondents	Time/Response (hours)	Total Burden (hours)
IT Student Survey	210	.33	70
IT Site Visits	80	1	70
IT Telephone Staff Interviews	15	66	10
<b>Total</b>	<b>305</b>		<b>150</b>

a total of about 70 individuals through the site visits (5 visits \* 2 days/visit \* 7 individuals/day). Since each interview will last approximately one hour the total burden for the site visits is 70 hours.

The telephone staff interviews will be focused on the remaining 5 high schools and 5 community colleges that are not covered by the site visits. At each school Mathematica plans to interview by telephone one administrator or one instructor; in about half of the schools Mathematica staff will also interview an employer partner. Hence approximately 15 individuals will be interviewed (1.5 individuals/school \* 10 schools). Since the interviews will last approximately 40 minutes (.66 hours), the total burden will be 10 hours (15 \* .66).

### **13. Estimated Capital, Operating, and Start-Up Costs to Respondents or Recordkeepers**

There is no start up costs incurred by respondents, nor any ongoing actual financial cost.

### **14. Estimated Costs to the Federal Government**

The estimated cost of the IT Student Survey is \$85,300. The cost of conducting both the site visits and telephone interviews with staff is approximately \$48,000. Hence the total data collection costs for the IT study are \$133,300. All of these data collection costs will be borne by the evaluation contract between ED and Mathematica Policy Research, Inc. (Contract No. EA95010001).

### **15. Changes in Burden**

Some of the STW evaluation data collection resources that ED has allocated to the IT skill certification study were originally reserved for a final round (2000) of the National STW Local Partnership Survey, a survey that would have imposed a substantially larger burden on partnership and school staff. The department decided to cancel this survey for a number of

reasons, including the fact that it would have imposed a burden on many partnerships that have exhausted their federal STW grants, some of which had no remaining staff.<sup>4</sup> The estimated burden for the Local Partnership Survey that was cancelled would have been approximately 33,000 staff hours—much more than the 150 hours of burden associated with the IT case study.

## **16. Tabulation and Publication Plans and Time Schedules for the Project**

The evaluation team plans to produce two deliverables for the IT skill certification study: a set of statistical tables and a final report:

- **Statistical Tables.** These tables will be produced in fall 2001. Drawing on the IT student survey, the tables will provide a profile of the overall characteristics of the students participating in IT programs, the fraction of program graduates who secure skill certificates, and their educational and labor market outcomes.
- **Final report.** A draft of the final report will be produced by the end of 2001. This report will synthesize the information from the all three IT data sources (the student survey, site visits and staff interviews), highlighting important trends likely to be of interest to policymakers and program staff.

## **17. Reasons for Not Displaying Expiration Date of OMB Approval**

The expiration date will be displayed on the IT site visit protocol. For the telephone surveys, the IT student survey and the interviews with staff and employers in sites that are not visited—the expiration date can not be displayed to the respondent. However, in any reports in which a printed version of these two instruments are included for documentation, the expiration date is shown.

## **18. Exceptions to the Certification Statement Item 19**

There are no exceptions taken to item 19 of OMB Form 83-1.

---

<sup>4</sup>ED made the decision to cancel this Local Partnership Survey before submitting any request to OMB for approval of the burden associated with this last survey.

## B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

### 1. Respondent Universe and Sampling

The sites for the IT study will be selected purposefully rather than randomly. This is appropriate for two main reasons. First only a limited number of schools will be able and willing to provide adequate contact information for graduates—information that is essential for the survey of IT students. Second, in order to provide appreciable samples for the student survey, Mathematica will need to identify schools that have IT certification programs that are serving a substantial number of students. Hence the study team will need to contact a substantial number of schools before they can find appropriate ones for the study. Schools with classes that surpass minimal class size and that have been in existence for a few years will have a higher priority in selection. In addition, for the selection of community colleges, those that focus on initial rather than higher level certifications will be prioritized. These criteria will substantially narrow the range of possible candidates. Combined with the fact that many schools may refuse to participate, this makes random sampling inappropriate.

There will be five stages of the site selection process, each of which is outlined below. In the first stage Mathematica will develop a master list of high schools and community colleges with IT skill certification programs throughout the country. Mathematica staff will request lists of programs from at least three of the main companies that have developed these certificates: that is Cisco, Microsoft, and Novell. If possible, Mathematica staff will download these lists from the public websites of these companies. Mathematica staff will also ask the certification companies for suggestions of particular schools that might be interesting to include in the study because they have relatively large or well developed IT programs or innovative features.

In the second stage of site selection, Mathematica staff will select from the master list a set of approximately 25 pairs of high schools and community colleges. Each pair will consist of one high school and one community college within the same labor market. Selection will give priority to schools with IT classes that have been in existence for at least two years, and that have a minimum number of students enrolled (at least 15 students). The schools selected will also be ones from diverse geographic regions and include ones from suburban, rural, and urban districts.

In the third stage of the selection process Mathematica will contact the pairs of candidate schools to secure some basic information about their programs and ask administrators whether they are willing to participate in the study. ED will send these schools an advance letter of introduction explaining the study's purpose and the main data collection activities. Then Mathematica staff will contact the schools to determine (1) the number of students who were enrolled in IT certification classes in school year 1999-2000 and (2) whether the school is willing and able to provide a list of these students including some basic contact information for them. Based on these conversations Mathematica will select from the list of candidate schools 10 "primary candidate" pairs and 3 "backup" pairs.

In the fourth stage of the site selection process Mathematica will request student lists from the 10 primary target pairs and if necessary from one or more of the backups. These lists will contain the names of students who were enrolled in IT classes in school year 1999-2000, some basic contact information for each student, and, if this information is available, whether or not each student secured a skill certificate. The research team will assess the quality of each list to confirm that it contains the number of students expected and adequate contact information. If the quality of the contact information from a school is insufficient, Mathematica will first discuss with school staff whether any additional information on these students is available from some

source; if no additional information on these students is available, Mathematica will select one of the backup pairs of schools as a substitute.

The IT student survey sample will contain approximately 150 high school students and 150 community college students, all of whom have completed an IT skill certificate program.<sup>5</sup> If the lists provided by the 10 pairs of schools contain approximately the right numbers of students Mathematica will include all of these students in the survey sample. If the lists contain more students than needed then the researchers will randomly sample students from the lists. If random sampling is necessary and the number of certificate holders is small, Mathematica may stratify the sample by whether or not students earned certificates, ensuring that the sample includes a sufficient number of certificate holders.

In the fifth and final stage of site selection Mathematica will select five pairs of schools to visit. Each pair will contain a high school and community college in the same labor market area. Mathematica staff will make this selection based largely on the extent to which the schools have relatively well developed IT programs, have innovative or interesting features, and appear interested in hosting a site visit. The individuals interviewed during the visit will include at least an instructor or school administrator, selected students taking the IT certification class, and a local employer that has hired some of the graduates of the IT program for IT positions.

## **2. Information Collection Procedures**

**Site Visits and Staff Interviews.** Candidate schools will receive advance letters signed by staff from the Department of Education. Mathematica staff will then contact school administrators by telephone to ask them a few questions about the size of their IT certification

---

<sup>5</sup>Based on this sample of 300, and our assumption of a 70 percent response rate to the survey, we anticipate that approximately 210 students will respond to the survey.

programs and whether they are willing to participate in the study. After schools have been selected for the study, Mathematica will send administrators a confirmation letter indicating whether their school will be visited or, alternatively, whether the researchers will interview them by telephone. In scheduling the site visits, Mathematica staff will ask schools to select a day that is likely to be convenient for their staff, a few students, and a local employer involved in the program. In advance of the site visits, Mathematica staff will contact school staff to develop an itinerary and will fax a description of the main topic areas that will be discussed during the visit. Professional staff from Mathematica will visit a high school and a community college in each of the five sites. During the two day site visits, one day will be spent at the high school and the other at the community college.

The same staff conducting the site visits will interview school and employer staff in the schools that will not be visited. If the respondents are not available when they are contacted, Mathematica will reschedule the interview. These interviews will last about 40 minutes on average.

**IT Student Survey.** This survey will be conducted by telephone using hard copy questionnaires. Sample members are contacted from the contractor's telephone survey center. Any sample member for whom e-mail addresses are available, will be sent notification of the study via e-mail encouraging them to call the toll free number. Sample members who cannot be reached by telephone after repeated attempts are given to specially trained locating staff. The survey is expected to take approximately 20 minutes. The completion rate is projected to be about 70 percent largely because the quality of the student contact information schools provide to Mathematica is expected to be somewhat uneven.

### 3. Methods to Maximize Response Rates

**IT Site Visits.** All institutions will be mailed or faxed an advance letter explaining the purpose of the study and what is being asked of them. Before selecting the school for inclusion in the study, Mathematica professional staff will confirm whether the school has an IT program that is sufficiently large and the school is willing and able to provide adequate contact information for students. At least one week before the site visit, Mathematica will provide a list of topics that will be discussed during the visit. In addition this list will identify the specific cost information that site visitors will be requesting, making it easier to assemble this information prior to the visit. During the visit, professional staff will refine the questions so that they are applicable to the school's program and the role of the staff interviewed, making it easier for staff to respond.

**IT Student Survey.** If Mathematica is able to obtain email addresses for many sample members, then survey staff will send these individuals an e-mail message indicating the purpose of the survey and when they are likely to be contacted by telephone interviewers. The message will allow them to e-mail back a preferred appointment time and number where they can be reached. The message will also include the toll-free number to call at their convenience to complete the survey. And finally, the e-mail will inform them of the \$25 payment for completion. All other sample members will be contacted directly by telephone. *confidential*

Sample members who cannot be located after persistent attempts will be sent a letter reminding them of the \$25 incentive for completing the interview. If this technique is not successful, a postcard (addressed to the sample member) will be mailed to a family address (determined during locating). The card will indicate the toll-free number and the incentive for completing the survey. Past experience indicates that this kind of postcard often improves contact rate.

#### **4. Test of Procedures**

**IT Site Visit and Staff Telephone Interview Discussion Guide.** After the initial calls to candidate schools, Mathematica staff will modify the site visit discussion guide. While most of these calls will be designed to determine the size of schools' IT programs, program staff may volunteer additional information that has bearing on the protocol. In addition, staff will interview at least two sites in somewhat more depth; together these interviews will cover most of the main topics contained in the discussion guide. Following these calls, the research team will modify the discussion guide. In addition, senior team members will conduct the first site visit and, based on that experience, may further refine the discussion guide.

**IT Student Survey.** Mathematica staff will pretest the IT survey instrument with nine students from similar high school and community college IT programs. The pre-test will focus on specific IT terms used in questions, respondents' comprehension of questions, and whether the questions and answer categories are appropriate given respondents' experiences and reasons for participating in IT classes. After administering the survey, Mathematica staff will ask participants specific Follow-Up questions about each of the questionnaire sections to determine whether and how specific questions need to be modified. Modifications will then be made to the survey instrument based on the feedback from the pre-test experience.

#### **5. Statistical Consultants**

Mathematica Policy Research, Inc will carry out data collection and analysis. The primary staff member responsible for sample selection, weighting, and general consultation on statistical issues will be John Hall (609 275-2357) of MPR. Mr. Hall will develop the sample design under the overall project guidance of Joshua Haimson, the deputy project director (609-275-2208)

## REFERENCES

- Adelman, Clifford. "A Parallel Postsecondary Universe: The Certification System in Information Technology." October 2000.
- Aoki, Bev. "Microsoft AATP in Wyoming: Teaching Technology Skills for Real Jobs" on Microsoft website ([www.microsoft.com/education/aatp/wyoming.asp](http://www.microsoft.com/education/aatp/wyoming.asp)), accessed October 1997.

**APPENDIX A**

**IT STUDY SURVEY  
HIGH SCHOOL IT CLASS ENROLLEES**

**IT SKILL CERTIFICATE  
HIGH SCHOOL SURVEY ITEMS**

TIME BEGAN:         :	AM.....01
	PM.....02

**A. INTRODUCTION AND SCREENER**

Hi, my name is \_\_\_\_\_ and I am calling from Mathematica Policy Research. We are conducting a study for the U.S. Department of Education on Information Technology classes. This study is designed to help schools improve their Information Technology programs. Qualified participants will receive \$25 for their time. The information you provide is confidential and your name will not appear in any report.

A1. \_\_\_\_\_ told us that you were enrolled in \_\_\_\_\_ during the school year of 1999 to 2000. Is this correct?

- YES ..... 01 → SKIP TO A8
- NO, WAS NOT ENROLLED IN SCHOOL/  
NEVER HEARD OF SCHOOL..... 02
- NO, WAS AT SCHOOL BUT NOT  
ENROLLED DURING 1999/2000 ..... 03 → SKIP TO "END"
- NO, WAS ENROLLED AT SCHOOL DURING  
CORRECT TIME BUT DID NOT  
TAKE THIS IT CLASS ..... 04
- DON'T KNOW..... d
- REFUSED ..... r → SKIP TO "END"

**A2. INTERVIEWER: VERIFY THAT THIS IS THE CORRECT PERSON.**

- WRONG PERSON.....00 → SKIP TO "END"
- CORRECT PERSON .....01

A3. Were you enrolled in some other school during the 1999 to 2000 school year?

- YES ..... 01
  - NO ..... 00
  - DON'T KNOW..... d
  - REFUSED ..... r
- } → SKIP TO "END"

A4. What school were you enrolled in?

**IF MORE THAN ONE SCHOOL ASK THEM TO PICK THE SCHOOL THEY ATTENDED FOR THE MOST HOURS**

- [SCHOOL] \_\_\_\_\_
- DON'T KNOW..... d
  - REFUSED ..... r

A5. Where is this school located?

**PROBE:** Please tell me the city and state.

- [LOCATION OF SCHOOL] \_\_\_\_\_
- \_\_\_\_\_
- DON'T KNOW..... d
  - REFUSED ..... r
- } → SKIP TO "END"

A6. Did you take an information technology class during the 1999-2000 school year? By information technology classes, we mean classes that focus on learning tasks such as network administration, Web site development, programming, or technical support.

**PROBE:** We do not mean classes for word-processing, data entry or other specific computer applications.

- YES ..... 01
  - NO ..... 00
  - DON'T KNOW..... d
  - REFUSED ..... r
- } → SKIP TO "END"

A7. What was the name of that class?

**INTERVIEWER: PROBE TO SPELL OUT ACRONYMS OR ABBREVIATIONS.**

[CLASS] \_\_\_\_\_

DON'T KNOW..... d

REFUSED ..... r

**INTERVIEWER: IF RESPONDENT NAMES MORE THAN ONE CLASS ASK:**

Were any of these classes supposed to prepare students for IT Skill Certificates?

**YES -- RECORD THAT CLASS NAME ABOVE.  
IF MORE THAN ONE YES -- PICK MOST RECENT OF THESE CLASSES AND RECORD ABOVE.  
IF NO, LIST MOST RECENT CLASS ABOVE.**

A8. Did you complete this class?

YES ..... 01 → SKIP TO B1

NO ..... 00

DON'T KNOW..... d

REFUSED ..... r

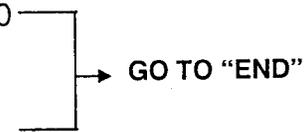
A9. Did you attend this class for 4 or more sessions?

YES ..... 01 → SKIP TO B1

NO ..... 00

DON'T KNOW..... d

REFUSED ..... r



**“END” OF INTERVIEW STATEMENT:**

Thank you very much for agreeing to participate, but at this time, we are only interviewing people who took information technology classes at certain schools. Thanks again!

**B. CAREER GOALS**

**INTERVIEWER: BE SURE TO WRITE DOWN NAME OF IT CLASS AND SCHOOL NAME ON FOLD-OUT SHEET**

B1. We will talk about \_\_\_\_\_ in a minute, but first I would like to ask you about your plans for the future.

[IT CLASS]

What kind of job do you expect or plan to have in the future, say in about 10 years? Even if you are not sure, please tell me your best guess.

**INTERVIEWER: RECORD VERBATIM RESPONSE. PROBE FOR SPECIFICS. BE SURE TO GET ENOUGH DETAIL FOR CODING OCCUPATION.**

- [JOB] \_\_\_\_\_
- MILITARY ..... 96
- HOMEMAKER ..... 97
- PLAN TO RETIRE ..... 98
- NO PLAN FOR FUTURE CAREER ..... 99
- DON'T KNOW ..... d
- REFUSED ..... r

B2. Would this job be in the information technology field, involving tasks like network administration, Web site development, programming, or technical support?

**PROBE IF NEEDED:** By the "IT field" we do not mean jobs where people use computers for tasks such as word-processing or data entry.

- YES ..... 01
- NO ..... 00
- DON'T KNOW ..... d
- REFUSED ..... r

B3. Will you need more schooling for this job?

- YES ..... 01
- NO ..... 00 → SKIP TO B5
- DON'T KNOW..... d
- REFUSED ..... r → SKIP TO B5

B4. How far in school do you think you will have to go to get that kind of job?

**IF RESPONDENT SAYS THEY HAVE TO COMPLETE THE PROGRAM CURRENTLY IN PROBE:** And how much education will you have then?

- HIGH SCHOOL DIPLOMA OR GED..... 01
  - SOME VOCATIONAL, TRADE OR BUSINESS SCHOOL..... 02
  - A DEGREE FROM A VOCATIONAL, TRADE OR BUSINESS SCHOOL ..... 03
  - ONE YEAR CERTIFICATE PROGRAM ..... 04
  - SOME COLLEGE EDUCATION ..... 05
  - 2 YEAR COLLEGE /ASSOCIATE DEGREE..... 06
  - 4 OR 5 YEAR COLLEGE DEGREE..... 07
  - MASTER'S DEGREE OR EQUIVALENT..... 08
  - PH.D., M.D., J.D. OR OTHER PROFESSIONAL DEGREE..... 09
  - SPECIALIZED TRAINING..... 10
  - OTHER (SPECIFY)..... 96
- 
- NO EDUCATION REQUIRED..... 97
  - DON'T KNOW ..... d
  - REFUSED..... r

B5. Over the past few weeks have you been working, going to school, in a training program, in the military, or doing something else?

**IF RESPONDENT SAYS "YES," PROBE FOR SPECIFICS.**

CIRCLE ALL THAT APPLY

WORKING ..... 01

GOING TO SCHOOL..... 02

SOMETHING ELSE (SPECIFY) ..... 03

---

DON'T KNOW..... d

REFUSED..... r

**C. IT CLASS**

For the next series of questions I would like you to focus on [IT CLASS LISTED ON FOLD-OUT SHEET] that you took during the 1999-2000 school year, even if you took other computer classes since or before that class.

C1. In which month and year did \_\_\_\_\_ start?  
[the IT CLASS]

|\_|\_|\_| / |\_|\_|\_|\_|  
MONTH YEAR

DON'T KNOW..... d

REFUSED ..... r

C2. And when did it end?

|\_|\_|\_| / |\_|\_|\_|\_|  
MONTH YEAR

CLASS STILL GOING ON ..... 00

DON'T KNOW..... d

REFUSED ..... r

**NO C3 IN HIGH SCHOOL SURVEY.**

C4. People have many reasons for taking Information Technology classes. Some take them for fun, some to fulfill requirements, and some to prepare for jobs or because an employer suggested it.

How important was each of the following in your decision to take \_\_\_\_\_ (READ ITEM) Was this a very important reason, a [THIS IT CLASS] somewhat important reason, or not an important reason you decided to take this IT class? **CONTINUE WITH EACH ITEM.**

	Very Important	Somewhat Important	Not Important	NOT APPLICABLE	DON'T KNOW	REFUSED
a. For fun, a hobby, or personal interest.....	01	02	03	04	d	r
b. Because it met school or program requirements.....	01	02	03	04	d	r
c. To prepare for a job or pursue career goals.....	01	02	03	04	d	r
d. To earn a promotion or because your employer recommended that you take the class.....	01	02	03	04	d	r

C5. Now, I'd like you to tell me how helpful this IT class actually was in each of the following. First, how helpful was the class in preparing you for a job that you got after taking the class. Was the class . . .

- Very helpful,..... 01
- Somewhat helpful, ..... 02
- Not too helpful, or ..... 03
- Not at all helpful? ..... 04
- NOT APPLICABLE/DID NOT GET JOB ..... 05
- DON'T KNOW..... d
- REFUSED ..... r

C6. How helpful was the class in preparing you for the type of job you want to get in the future? (Was the class . . .)

- Very helpful,..... 01
- Somewhat helpful, ..... 02
- Not too helpful, or ..... 03
- Not at all helpful? ..... 04
- NOT APPLICABLE/  
DIDN'T WANT FUTURE JOB ..... 05
- DON'T KNOW..... d
- REFUSED ..... r

C7. And what about clarifying your career goals? (Was the class . . .)

- Very helpful,..... 01
- Somewhat helpful, ..... 02
- Not too helpful, or ..... 03
- Not at all helpful? ..... 04
- NOT APPLICABLE/DID NOT WANT  
A CAREER/WAS TAKING CLASS  
FOR FUN..... 05
- DON'T KNOW..... d
- REFUSED ..... r

C7a. How helpful was the class in preparing you for additional education or training programs?

- Very helpful,..... 01
- Somewhat helpful, ..... 02
- Not too helpful, or ..... 03
- Not at all helpful? ..... 04
- NOT APPLICABLE/DID NOT WANT  
MORE EDUCATION..... 05
- DON'T KNOW..... d
- REFUSED ..... r

C8. Was \_\_\_\_\_ supposed to prepare students for a specific IT skill certificate test or tests?  
[IT CLASS]

YES ..... 01  
 NO ..... 00  
 DON'T KNOW ..... d  
 REFUSED ..... r

} → SKIP TO C13

C9. Which certificate test or tests was it supposed to prepare you for? **RECORD FIRST THREE TESTS MENTIONED ACROSS TOP OF GRID BELOW.**

NAMES OF TESTS (C9) →	a.	b.	c.
	IT TEST 1	IT TEST 2	IT TEST 3
C10. Did you take the test for (INSERT TEST NAME)?	YES ..... 01 NO.....(GO TO C10-TEST 2) .....00 DK.....(GO TO C10-TEST 2)..... d REF...(GO TO C10-TEST 2) ..... r	YES ..... 01 NO.....(GO TO C10-TEST 3) .....00 DK.....(GO TO C10-TEST 3)..... d REF...(GO TO C10-TEST 3)..... r	YES ..... 01 NO ..... 00 DK ..... d REF ..... r
C11. Did you pass this test?	YES ..... 01 NO ..... 00 DON'T KNOW ..... d REFUSED ..... r	YES ..... 01 NO ..... 00 DON'T KNOW ..... d REFUSED ..... r	YES ..... 01 NO ..... 00 DON'T KNOW ..... d REFUSED ..... r
C12. How many times have you taken this test, (including the time you passed it)?	_ _  → GO TO C10, 2nd TEST	_ _  → GO TO C10, 3rd TEST	_ _

C13. Other than the test(s) that you just told me about, have you ever taken any other IT skill certification tests?

**PROBE:** This includes IT tests you may have taken for recertification, or tests you took from another school or tests you took after self-study.

YES ..... 01  
 NO ..... 00  
 DON'T KNOW ..... d  
 REFUSED ..... r

} → SKIP TO C16

C14. Which other tests have you taken that you have passed? **LIST OUT THE NAMES OF THE FIRST THREE TESTS MENTIONED IN C14 ACROSS THE TOP OF THE GRID. THEN ASK C15 FOR EACH TEST. RECORD ANSWERS DOWN EACH COLUMN**

	a.	b.	c.
C14. NAMES OF OTHER IT TESTS →	_____ OTHER TEST 1	_____ OTHER TEST 2	_____ OTHER TEST 3
C15. In what month and year did you take (INSERT OTHER TEST NAME)?  PROBE: Please tell me for the most recent test that you have passed.	__ __  MONTH   __ __ __ __  YEAR  DON'T KNOW ..... d REFUSED ..... r	__ __  MONTH   __ __ __ __  YEAR  DON'T KNOW ..... d REFUSED ..... r	__ __  MONTH   __ __ __ __  YEAR  DON'T KNOW ..... d REFUSED ..... r

C16. Including \_\_\_\_\_, <sup>[IT:CLASS]</sup> how many information technology classes have you taken during high school?

|\_\_|\_\_| # OF CLASSES

DON'T KNOW ..... d

REFUSED ..... r

**NO SECTION D IN HIGH SCHOOL SURVEY.**

**E. POSTSECONDARY PROGRAMS ENTERED AFTER IT CLASS**

E1. Now I have some questions about any schools or education and training programs you've been in since leaving high school. These may or may not be related to computer or information technology.

How many different schools, education, job training, or military programs have you participated in since then?

**PROBE:** Please include college, technical or trade school, adult basic education or GED courses, Job Corps, or other types of school. Also include training programs to help you learn job skills or get a job, the military and any military training programs, and classes you may have taken to learn English or improve your reading skills.

NONE ..... 00 → SKIP TO E23, PAGE 21

|\_\_|\_\_| # OF PROGRAMS--RECORD ON FOLD-OUT SHEET

DON'T KNOW..... d  
REFUSED ..... r → SKIP TO E23, PAGE 21

E2. What is the name of the most recent school or program that you've been in?

[PROGRAM] \_\_\_\_\_

DON'T KNOW..... d

REFUSED ..... r

E3. What type of school or training was this program?

- ABE – ADULT BASIC EDUCATION PROGRAM (PRE-GED) ..... 01
  - GED PROGRAM ..... 02
  - ESL – ENGLISH AS A SECOND LANGUAGE PROGRAM ..... 03
  - NURSING SCHOOL (LPN OR RN)/ HOME HEALTH..... 04
  - BUSINESS OR SECRETARIAL SCHOOL ..... 05
  - VOCATIONAL, TECHNICAL, OR TRADE SCHOOL ..... 06
  - APPRENTICESHIP ..... 07
  - BASIC MILITARY TRAINING ..... 08
  - ADVANCED MILITARY TRAINING ..... 09
  - ONE YEAR CERTIFICATE PROGRAM ..... 10
  - COMMUNITY, TECHNICAL, OR JUNIOR COLLEGE (2 YEAR) ..... 11
  - COLLEGE/UNIVERSITY (4 YEAR) ..... 12
  - SPECIALIZED TRAINING/CERTIFICATE ..... 13
  - OTHER TYPE (SPECIFY) ..... 14
- 
- DON'T KNOW..... d
  - REFUSED ..... r

E4. In what month and year did you start attending this school or program?

**[START]** |\_\_| |\_\_| / |\_\_| |\_\_| |\_\_| |\_\_|  
 MONTH                      YEAR

- DON'T KNOW..... d
- REFUSED ..... r

E5. And in what month and year did you stop attending this school or program or are you still attending?

**[STOP]** | | | / | | | | |  
MONTH YEAR

- STILL ATTENDING ..... 00
- DON'T KNOW ..... d
- REFUSED ..... r

E6. (Did you/If you finish this program will you) receive some type of degree, certificate or other credential from this school or program?

- YES ..... 01
- NO ..... 00
- DON'T KNOW ..... d
- REFUSED ..... r



E7. What type of degree, certificate or credential (would you/did you) earn in this school or program?

- HIGH SCHOOL DIPLOMA OR GED ..... 01
  - VOCATIONAL, TRADE, OR BUSINESS SCHOOL DEGREE ..... 02
  - 1 YEAR CERTIFICATE PROGRAM (SPECIFY) ..... 03
  - \_\_\_\_\_
  - SPECIFIC CERTIFICATE OR LICENSE (SPECIFY)..... 04
  - \_\_\_\_\_
  - ASSOCIATE'S DEGREE ..... 05
  - BACHELOR'S DEGREE..... 06
  - MASTER'S DEGREE OR EQUIVALENT ..... 07
  - PH.D., ..... 08
  - M.D., J.D. OR OTHER PROFESSIONAL DEGREE..... 09
  - OTHER (SPECIFY) ..... 96
  - \_\_\_\_\_
  - DON'T KNOW..... d
  - REFUSED ..... r
- SKIP TO E9 (for 01-04)
- ASK E8 (for 05-08)
- SKIP TO E9 (for 09, 96, d, r)

E8. **ASK ONLY IF COLLEGE DEGREE:** What (is/was) your major?

- [MAJOR] \_\_\_\_\_
- DON'T KNOW..... d
  - REFUSED ..... r

E9. Did you get any credits for \_\_\_\_\_ that  
count towards this degree or other credential? [IT CLASS]

- YES ..... 01
- NO ..... 00
- DON'T KNOW ..... d
- REFUSED ..... r

E10. Is the cost of attending this school or program covered by your employer, by you, by your family, by scholarships or loans, or by someone else?

CIRCLE ALL THAT APPLY

- EMPLOYER..... 01
- RESPONDENT ..... 02
- RESPONDENT'S FAMILY ..... 03
- SCHOLARSHIPS/LOANS ..... 04
- SOMEONE ELSE (SPECIFY) ..... 05

---

- DON'T KNOW..... d
- REFUSED ..... r

E11. Did an employer encourage you to enter this school or program?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

E14. What type of school or training was this program?

- ABE – ADULT BASIC EDUCATION PROGRAM (PRE-GED) ..... 01
  - GED PROGRAM ..... 02
  - ESL – ENGLISH AS A SECOND LANGUAGE PROGRAM ..... 03
  - NURSING SCHOOL (LPN OR RN)/ HOME HEALTH..... 04
  - BUSINESS OR SECRETARIAL SCHOOL ..... 05
  - VOCATIONAL, TECHNICAL, OR TRADE SCHOOL ..... 06
  - APPRENTICESHIP ..... 07
  - BASIC MILITARY TRAINING ..... 08
  - ADVANCED MILITARY TRAINING ..... 09
  - ONE YEAR CERTIFICATE PROGRAM ..... 10
  - COMMUNITY, TECHNICAL, OR JUNIOR COLLEGE (2 YEAR) ..... 11
  - COLLEGE/UNIVERSITY (4 YEAR) ..... 12
  - SPECIALIZED TRAINING/CERTIFICATE..... 13
  - OTHER TYPE (SPECIFY) ..... 14
- 
- DON'T KNOW..... d
  - REFUSED ..... r

E15. In what month and year did you start attending this school or program?

**[START]** | | | / | | | | |  
 MONTH YEAR

- DON'T KNOW..... d
- REFUSED ..... r

E18. What type of degree, certificate or credential (would you/did you) earn in this school or program?

- |  |    |   |               |
|--|----|---|---------------|
| HIGH SCHOOL DIPLOMA OR GED .....                   | 01 | } | → SKIP TO E20 |
| VOCATIONAL, TRADE, OR BUSINESS SCHOOL DEGREE ..... | 02 |   |               |
| 1 YEAR CERTIFICATE PROGRAM (SPECIFY) .....         | 03 |   |               |
| _____  |    |   |               |
| SPECIFIC CERTIFICATE OR LICENSE (SPECIFY).....     | 04 |   |               |
| _____  |    |   |               |
| ASSOCIATE'S DEGREE.....                            | 05 | } | → ASK E19     |
| BACHELOR'S DEGREE.....                             | 06 |   |               |
| MASTER'S DEGREE OR EQUIVALENT .....                | 07 |   |               |
| PH.D., .....                                       | 08 |   |               |
| M.D., J.D. OR OTHER PROFESSIONAL DEGREE.....       | 09 |   | → SKIP TO E20 |
| OTHER (SPECIFY) .....                              | 96 | } | → SKIP TO E20 |
| _____  |    |   |               |
| DON'T KNOW.....                                    | d  |   |               |
| REFUSED .....                                      | r  |   |               |

E19. **ASK ONLY IF COLLEGE DEGREE:** What (is/was) your major?

- [MAJOR] \_\_\_\_\_
- DON'T KNOW..... d
- REFUSED ..... r

E20. Did you get any credits for \_\_\_\_\_  
[IT\_CLASS]  
 that count towards this degree or other credential?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

E21. Is the cost of attending this school or program covered by your employer, by you, by your family, by scholarships or loans, or by someone else?

CIRCLE ALL THAT APPLY

- EMPLOYER..... 01
  - RESPONDENT..... 02
  - RESPONDENT'S FAMILY..... 03
  - SCHOLARSHIPS/LOANS ..... 04
  - SOMEONE ELSE (SPECIFY) ..... 05
- 
- DON'T KNOW..... d
  - REFUSED ..... r

E22. Did an employer encourage you to enter this school or program?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

**ASK ALL:**

E23. How many, if any, information technology classes have you taken after leaving high school?

|\_|\_| # OF CLASSES

- DON'T KNOW..... d
- REFUSED ..... r

**F. EMPLOYMENT**

F1. Next I'd like to ask you about any jobs or paid internships that you've had.

Since September 1999, have you worked in any jobs or paid internships? Do not include odd jobs that you did occasionally. Please include any job that you had in September 1999 that began before September.

- YES ..... 01
- NO ..... 00 → SKIP TO G1 –  
DEMOGRAPHICS  
PAGE 35
- DON'T KNOW..... d
- REFUSED ..... r

F2. Are you currently working?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

F3. How many different jobs or paid internships have you had since September 1999? Please include all jobs and internships you've had since September 1999, (including your current job).

- |\_\_|\_\_| JOBS/INTERNSHIPS
- DON'T KNOW..... d
- REFUSED ..... r

F4. Thinking about your (current job/most recent job), what (is/was) the name of your employer?

**INTERVIEWER: IF RESPONDENT HAS TWO OR MORE CONCURRENT JOBS, ASK FOR THE ONE THEY CONSIDER TO BE THEIR "MAIN" JOB.**

[EMPLOYER NAME] \_\_\_\_\_

DON'T KNOW..... d

REFUSED ..... r

F5. (Is/Was) this a job or a paid internship?

JOB..... 01

PAID INTERNSHIP..... 02

DON'T KNOW..... d

REFUSED ..... r

→ RECORD AS JOB ON FOLD-OUT SHEET

F6. And (do/did) you work for an employer or (are/were) you self-employed?

EMPLOYER..... 01

SELF-EMPLOYED..... 02

DON'T KNOW..... d

REFUSED ..... r

→ RECORD AS EMPLOYER ON FOLD-OUT SHEET

**RECORD INFORMATION FROM F4, F5 AND F6 ON FOLD-OUT SHEET.**

**NO F7 IN HIGH SCHOOL SURVEY.**

**FIRST JOB MODULE**

F8. When did your (job/internship) first start at [INSERT EMPLOYER FROM FOLD-OUT SHEET (F4)]?

**PROBE:** I need the month and year.

[START] |\_\_|\_\_| / |\_\_|\_\_|\_\_|\_\_|  
MONTH YEAR

DON'T KNOW..... d

REFUSED ..... r

F9. And when did it end, or are you still working there?

**INTERVIEWER: IF GAPS IN EMPLOYMENT, RECORD FINAL END DATE.**

[END] |\_\_|\_\_| / |\_\_|\_\_|\_\_|\_\_|  
MONTH YEAR

STILL WORKING THERE ..... 00

DON'T KNOW..... d

REFUSED ..... r

F10. During a typical week, how many hours (do/did) you work there?

|\_\_|\_\_| HOURS

DON'T KNOW..... d

REFUSED ..... r

F11. How much (do/did) you earn at this job (now/when you left) before taxes or deductions were taken out? Please include tips and commissions.

**INTERVIEWER: TRY TO GET A PER HOUR OR PER WEEK AMOUNT.**

\$ |\_|\_|\_|\_|\_|,|\_|\_|\_|\_|\_|.|\_|\_|\_|\_|\_|

- PER HOUR..... 01
- PER DAY..... 02
- PER WEEK..... 03
- EVERY TWO WEEKS ..... 04
- TWICE A MONTH..... 05
- PER MONTH ..... 06
- PER YEAR ..... 07
- OTHER (SPECIFY) ..... 08

- 
- DON'T KNOW..... d
  - REFUSED ..... r

F12. Did this (job/internship) **primarily** involve information technology tasks?

**PROBE:** By “primarily,” we mean spending at least half your time.

**PROBE:** Information technology tasks might include network administration, Web site development, programming, or technical assistance.

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r



F13. (What does this employer make or do?/What do you make or do?)

**PROBE:** What industry is this employer in? What type of business is this?

**INTERVIEWER: CODE WITH ENOUGH DETAIL. PROBE FOR SPECIFICS.**

[BUSINESS] \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

DON'T KNOW..... d

REFUSED ..... r

F14. What (is/was) your position or title?

**PROBE:** What tasks did you do in this job?

[POSITION OR TITLE] \_\_\_\_\_

NO SPECIFIC TITLE/MULTIPLE TITLES ..... 00

DON'T KNOW..... d

REFUSED ..... r

F15. How often (do/did) you perform the following tasks as part of this (job/internship). **(READ FIRST ITEM.)** (Do/Did) you do this daily, weekly, monthly less often than monthly or never? **CONTINUE WITH REST OF LIST.**

	Daily	Weekly	Monthly	Less Than Monthly	Never	DON'T KNOW	REFUSED
a. Installing, maintaining, or troubleshooting networks, or doing network or server administration? .....	01	02	03	04	05	d	r
b. Setting up, troubleshooting, or configuring desktop computers, doing tech support, or serving at a help desk? .....	01	02	03	04	05	d	r
c. Developing databases or management information systems? .....	01	02	03	04	05	d	r
d. Developing or maintaining Web sites? .....	01	02	03	04	05	d	r
e. Developing other types of software programs or doing programming? .....	01	02	03	04	05	d	r

**PROBE:** By other types, we mean excluding programming databases or creating and maintaining Web sites.

F16. Did people from the school where you took \_\_\_\_\_ [IT CLASS] help you find or get this job?

- YES ..... 01
- NO ..... 00
- DON'T KNOW ..... d
- REFUSED ..... r

**INTERVIEWER CHECK: (IS/WAS) THIS JOB SELF-EMPLOYMENT?  
SEE FOLD-OUT SHEET.**

YES ..... 01 → GO TO G1--  
DEMOGRAPHICS,  
PAGE 35

NO ..... 00

F17. Did the employer ever indicate that those with some type of IT skill certificate would be preferred for this job?

- YES ..... 01
- NO ..... 00 → SKIP TO F19
- DON'T KNOW..... d
- REFUSED ..... r

F18. Did the employer indicate that only those with an IT skill certificate would be considered for the job?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

F19. Did the employer ever indicate that those with an IT skill certificate could get a better job or have faster advancement within the company?

YES ..... 01  
NO ..... 00  
DON'T KNOW..... d  
REFUSED ..... r

**ALL THOSE ANSWERING F19, GO TO G1 DEMOS, PAGE 35**

**SECOND JOB MODULE**

F20. Since September 1999, did you have any job or paid internship that primarily involved information technology tasks? By "primarily," we mean at least half your time.

**PROBE:** By "primarily," we mean spending at least half your time.

- YES ..... 01
  - NO ..... 00
  - DON'T KNOW..... d
  - REFUSED ..... r
- } → **GO TO G1—  
DEMOGRAPHICS, PAGE 34**

F21. I'd like to talk about the most recent such job that primarily involved information technology tasks. First, . . .

What was the name of your employer?

- [EMPLOYER]** \_\_\_\_\_ -- **RECORD ON FOLD-OUT SHEET AS WELL**
- DON'T KNOW..... d
- REFUSED ..... r

F22. Was this a job or a paid internship? **RECORD ON FOLD-OUT SHEET**

- JOB..... 01
  - PAID INTERNSHIP..... 02
  - DON'T KNOW..... d
  - REFUSED ..... r
- } → **RECORD AS JOB ON FOLD-OUT SHEET**

F23. And did you work for an employer or were you self-employed? **RECORD ON FOLD-OUT SHEET**

- EMPLOYER..... 01
  - SELF-EMPLOYED..... 02
  - DON'T KNOW..... d
  - REFUSED ..... r
- } → **RECORD AS EMPLOYER ON FOLD-OUT SHEET**

F24. When did your (job/internship) first start at [INSERT EMPLOYER FROM FOLD-OUT SHEET (F21)]?

**PROBE:** I need the month and year.

[START] |\_\_|\_\_| / |\_\_|\_\_|\_\_|\_\_|  
MONTH YEAR

DON'T KNOW..... d

REFUSED ..... r

F25. And when did it end, or are you still working there?

**INTERVIEWER: IF GAPS IN EMPLOYMENT, RECORD FINAL END DATE.**

[END] |\_\_|\_\_| / |\_\_|\_\_|\_\_|\_\_|  
MONTH YEAR

STILL WORKING THERE ..... 00

DON'T KNOW..... d

REFUSED ..... r

F26. During a typical week, how many hours (do/did) you work there?

|\_\_|\_\_| HOURS

DON'T KNOW..... d

REFUSED ..... r

F27. How much (do/did) you earn at this job (now/when you left) before taxes or deductions were taken out? Please include tips and commissions.

**INTERVIEWER: TRY TO GET A PER HOUR OR PER WEEK AMOUNT.**

\$ | | | | | , | | | | | . | | | | |

- PER HOUR..... 01
  - PER DAY..... 02
  - PER WEEK..... 03
  - EVERY TWO WEEKS ..... 04
  - TWICE A MONTH..... 05
  - PER MONTH..... 06
  - PER YEAR ..... 07
  - OTHER (SPECIFY) ..... 08
- 
- DON'T KNOW..... d
  - REFUSED ..... r

**NO F28 IN HIGH SCHOOL SURVEY.**

F29. (What does this employer make or do?/What do you make or do?)

**PROBE:** What industry is this employer in? What type of business is this?

**INTERVIEWER: CODE WITH ENOUGH DETAIL. PROBE FOR SPECIFICS.**

[BUSINESS] \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- DON'T KNOW..... d
- REFUSED ..... r

F30. What (is/was) your position or title?

**PROBE:** What tasks did you do in this job?

[POSITION OR TITLE] \_\_\_\_\_

NO SPECIFIC TITLE/MULTIPLE TITLES ..... 00

DON'T KNOW..... d

REFUSED ..... r

F31. How often (do/did) you perform the following tasks as part of this (job/internship). **(READ FIRST ITEM.)** (Do/Did) you do this daily, weekly, monthly less often than monthly or never? **CONTINUE WITH REST OF LIST.**

	Daily	Weekly	Monthly	Less Than Monthly	Never	DON'T KNOW	REFUSED
a. Installing, maintaining, or troubleshooting networks, or doing network or server administration? ....	01	02	03	04	05	d	r
b. Setting up, troubleshooting, or configuring desktop computers, doing tech support, or serving at a help desk? .....	01	02	03	04	05	d	r
c. Developing databases or management information systems? .....	01	02	03	04	05	d	r
d. Developing or maintaining Web sites? .....	01	02	03	04	05	d	r
e. Developing other types of software programs or doing programming? .....	01	02	03	04	05	d	r

**PROBE:** By other types, we mean excluding programming databases or creating and maintaining Web sites.

F32. Did people from the school where you took \_\_\_\_\_ [IT CLASS]

help you find or get this job?

YES ..... 01

NO ..... 00

DON'T KNOW..... d

REFUSED ..... r

**INTERVIEWER CHECK: (IS/WAS) THIS JOB SELF-EMPLOYMENT?  
SEE FOLD-OUT SHEET**

YES..... 01 → GO TO G1--  
DEMOGRAPHICS,  
PAGE 35

NO..... 00

F33. When you got this position, did the employer indicate that those with some type of IT skill certificate would be preferred for this job?

YES ..... 01

NO ..... 00 → SKIP TO F35

DON'T KNOW..... d

REFUSED ..... r

F34. Did the employer indicate that only those with an IT skill certificate would be considered for the job?

YES ..... 01

NO ..... 00

DON'T KNOW..... d

REFUSED ..... r

F35. Did the employer indicate that those with an IT skill certificate could get a better job or have faster advancement within the company?

YES ..... 01

NO ..... 00

DON'T KNOW..... d

REFUSED ..... r

**NO F36 OR F37 IN HIGH SCHOOL SURVEY.**

**G. DEMOGRAPHICS**

Now I have a few final background questions for you.

G1. How many years of education have you completed or what is the highest degree that you have earned so far?

- SOME HIGH SCHOOL ..... 01
- GED ..... 02
- HIGH SCHOOL..... 03
- LESS THAN TWO YEARS OF VOCATIONAL,  
TRADE OR BUSINESS SCHOOL ..... 04
- TWO YEARS OR MORE OF VOCATIONAL,  
TRADE OR BUSINESS SCHOOL ..... 05
- A DEGREE FROM A VOCATIONAL, TRADE  
OR BUSINESS SCHOOL ..... 06
- SOME COLLEGE EDUCATION ..... 07
- 2 YEAR COLLEGE DEGREE ..... 08
- 4 OR 5 YEAR COLLEGE DEGREE..... 09
- MASTER'S DEGREE OR EQUIVALENT ..... 10
- PH.D., ..... 11
- M.D., J.D. OR OTHER  
PROFESSIONAL DEGREE ..... 12
- DON'T KNOW ..... d
- REFUSED ..... r



G2. In what month and year did you graduate from high school?

|\_|\_|\_| / |\_|\_|\_|\_|  
 MONTH                      YEAR

- DON'T KNOW..... d
- REFUSED ..... r

G3. What was your high school average or grade point average?

\_\_\_\_\_ **RECORD VERBATIM**

DON'T KNOW..... d

REFUSED ..... r

G4. **IF ANY NUMBER GIVEN IN G3, ASK:** And that's a [INSERT NUMBER FROM G3] out of what?

**FOR LETTER GRADES CODE BELOW WITHOUT ASKING**

LETTER GRADE SCALE ..... 01

100 POINT OR PERCENTAGE SCALE ..... 02

4.0 GPA SCALE ..... 03

5.0 GPA SCALE ..... 04

SOMETHING ELSE (SPECIFY) ..... 05

\_\_\_\_\_ DON'T KNOW..... d

REFUSED ..... r

G4a. What is the name of the last math class that you took?

**PROBE WITH LIST IF DON'T KNOW NAME.**

- GENERAL ALGEBRA/ALGEBRA I..... 01
- ADVANCED ALGEBRA/ALGEBRA II..... 02
- GEOMETRY ..... 03
- TRIGONOMETRY ..... 04
- PRE-CALCULUS ..... 05
- CALCULUS ..... 06
- BUSINESS MATH ..... 07
- OTHER (SPECIFY) ..... 08

---

- NEVER TOOK ..... 09
- DON'T KNOW..... d
- REFUSED ..... r

G5. What is the highest grade or year of regular school that your mother has completed?

**PROBE:** Please tell me about whoever you consider to be your primary female caregiver or guardian.

- SOME HIGH SCHOOL..... 01
- GED..... 02
- HIGH SCHOOL..... 03
- LESS THAN TWO YEARS OF  
VOCATIONAL, TRADE OR  
BUSINESS SCHOOL ..... 04
- TWO YEARS OR MORE OF  
VOCATIONAL, TRADE OR  
BUSINESS SCHOOL ..... 05
- A DEGREE FROM A VOCATIONAL,  
TRADE OR BUSINESS SCHOOL..... 06
- SOME COLLEGE EDUCATION ..... 07
- 2 YEAR COLLEGE DEGREE..... 08
- 4 OR 5 YEAR COLLEGE DEGREE..... 09
- MASTER'S DEGREE OR EQUIVALENT ..... 10
- PH.D.,..... 11
- M.D., J.D. OR OTHER  
PROFESSIONAL DEGREE..... 12
- DON'T KNOW..... d
- REFUSED ..... r

G6. What is the highest grade or year of regular school that your father has completed?

**PROBE:** Please tell me about whoever you consider to be your primary male caregiver or guardian.

- SOME HIGH SCHOOL ..... 01
- GED ..... 02
- HIGH SCHOOL ..... 03
- LESS THAN TWO YEARS OF VOCATIONAL, TRADE OR BUSINESS SCHOOL ..... 04
- TWO YEARS OR MORE OF VOCATIONAL, TRADE OR BUSINESS SCHOOL ..... 05
- A DEGREE FROM A VOCATIONAL, TRADE OR BUSINESS SCHOOL ..... 06
- SOME COLLEGE EDUCATION ..... 07
- 2 YEAR COLLEGE DEGREE ..... 08
- 4 OR 5 YEAR COLLEGE DEGREE ..... 09
- MASTER'S DEGREE OR EQUIVALENT ..... 10
- PH.D., ..... 11
- M.D., J.D. OR OTHER PROFESSIONAL DEGREE ..... 12
- DON'T KNOW ..... d
- REFUSED ..... r

G7. During the past 12 months, about how many months have you been employed?

**IF NEEDED:** Either full- or part-time.

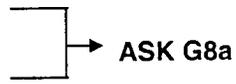
|\_|\_| MONTHS

- NONE ..... 00
- DON'T KNOW ..... d
- REFUSED ..... r

G8. What is your age?

|\_\_| |\_\_| AGE → IF AGE GIVEN, GO TO G9

DON'T KNOW..... d  
REFUSED ..... r



G8a. Could you just stop me when I read the age group that you fall into?

20 or younger ..... 01  
21 to 30..... 02  
31 to 40..... 03  
41 to 50..... 04  
Over 50..... 05  
DON'T KNOW..... d  
REFUSED ..... r

G9. Are you of Latino or Spanish descent or origin?

YES ..... 01  
NO ..... 00  
DON'T KNOW..... d  
REFUSED ..... r

G10. Do you consider yourself . . .

White, ..... 01  
Black or African-American, ..... 02  
Asian or Pacific Islander, or ..... 03  
Native American or Alaskan Native? ..... 04  
MIXED OR MULTI-RACIAL (SPECIFY) ..... 05  
\_\_\_\_\_  
Other (SPECIFY) ..... 06  
\_\_\_\_\_  
DON'T KNOW..... d  
REFUSED ..... r

G11. INTERVIEWER: ASK IF CAN'T DETERMINE: What is your gender?

MALE..... 01

FEMALE ..... 02

Thank you very much for participating in this important study. Now, we need to get your address so that we can send you a check.

NAME: _____
STREET ADDRESS: _____
CITY, STATE, ZIP: _____

INTERVIEWER NAME: _____
DATE OF INTERVIEW: _____

TIME ENDED:	__   __  :  __   __	AM .....01
		PM.....02
ELAPSED TIME:	__   __  :  __   __	

# IT SURVEY FOLD-OUT SHEET

<b>IT CLASS:</b> _____ <i>(from sample or named in A7)</i>
---

NUMBER OF POST-SECONDARY PROGRAMS (E2) \_\_\_\_\_

EMPLOYER NAME	Job vs. Internship	Employer vs. Self-Employed
JOB #1 (F4) _____	J / I	E / S
JOB #2 (F21) _____	J / I	E / S

(Note: This page will be printed on 11x17 paper. The above page is printed to the far right so that when unfolded, it will be visible to interviewers while conducting the interview)

**APPENDIX B**

**IT STUDENT SURVEY  
COMMUNITY COLLEGE IT CLASS ENROLLEES**

**IT SKILL CERTIFICATE  
COMMUNITY COLLEGE SURVEY ITEMS**

TIME BEGAN:         :	AM.....01
	PM.....02

**A. INTRODUCTION AND SCREENER**

Hi, my name is \_\_\_\_\_ and I am calling from Mathematica Policy Research. We are conducting a study for the U.S. Department of Education on Information Technology classes. This study is designed to help schools improve their Information Technology programs. Qualified participants will receive \$25 for their time. The information you provide is confidential and your name will not appear in any report.

A1. \_\_\_\_\_ told us that you were enrolled in \_\_\_\_\_ during the school year of 1999 to 2000. Is this correct?

- YES ..... 01 → SKIP TO A8
- NO, WAS NOT ENROLLED IN SCHOOL/  
NEVER HEARD OF SCHOOL..... 02
- NO, WAS AT SCHOOL BUT NOT  
ENROLLED DURING 1999/2000 ..... 03 → SKIP TO "END"
- NO, WAS ENROLLED AT SCHOOL DURING  
CORRECT TIME BUT DID NOT  
TAKE THIS IT CLASS ..... 04
- DON'T KNOW..... d
- REFUSED ..... r → SKIP TO "END"



<b>A2. INTERVIEWER: VERIFY THAT THIS IS THE CORRECT PERSON.</b>
WRONG PERSON.....00 → SKIP TO "END"
CORRECT PERSON .....01

A3. Were you enrolled in some other school during the 1999 to 2000 school year?

YES ..... 01  
NO ..... 00  
DON'T KNOW..... d  
REFUSED ..... r

→ SKIP TO "END"

A4. What school were you enrolled in?

**IF MORE THAN ONE SCHOOL ASK THEM TO PICK THE SCHOOL THEY ATTENDED FOR THE MOST HOURS**

[SCHOOL] \_\_\_\_\_  
DON'T KNOW..... d  
REFUSED ..... r

A5. Where is this school located?

**PROBE:** Please tell me the city and state.

[LOCATION OF SCHOOL] \_\_\_\_\_  
\_\_\_\_\_  
DON'T KNOW..... d  
REFUSED ..... r

→ SKIP TO "END"

A6. Did you take an information technology class during the 1999-2000 school year? By information technology classes, we mean classes that focus on learning tasks such as network administration, Web site development, programming or technical support.

**PROBE:** We do not mean classes for word-processing, data entry or other specific computer applications.

YES ..... 01  
NO ..... 00  
DON'T KNOW..... d  
REFUSED ..... r

→ SKIP TO "END"

A7. What was the name of that class?

**INTERVIEWER: PROBE TO SPELL OUT ACRONYMS OR ABBREVIATIONS.**

[CLASS] \_\_\_\_\_

DON'T KNOW..... d

REFUSED ..... r

**INTERVIEWER: IF RESPONDENT NAMES MORE THAN ONE CLASS ASK:**

Were any of these classes supposed to prepare students for IT Skill Certificates?

**YES -- RECORD THAT CLASS NAME ABOVE.  
IF MORE THAN ONE YES -- PICK MOST RECENT OF THESE CLASSES AND RECORD ABOVE.  
IF NO, LIST MOST RECENT CLASS ABOVE.**

A8. Did you complete this class?

YES ..... 01 → SKIP TO B1

NO ..... 00

DON'T KNOW..... d

REFUSED ..... r

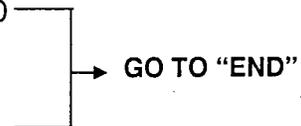
A9. Did you attend this class for 4 or more sessions?

YES ..... 01 → SKIP TO B1

NO ..... 00

DON'T KNOW..... d

REFUSED ..... r



**“END” OF INTERVIEW STATEMENT:**

Thank you very much for agreeing to participate, but at this time, we are only interviewing people who took information technology classes at certain schools. Thanks again!

**B. CAREER GOALS**

**INTERVIEWER: BE SURE TO WRITE DOWN NAME OF IT CLASS AND SCHOOL NAME ON FOLD-OUT SHEET**

B1. We will talk about \_\_\_\_\_ in a minute, but first I would like to ask you about your plans for the future.

[IT CLASS]

What kind of job do you expect or plan to have in the future, say in about 5 years? Even if you are not sure, please tell me your best guess.

**INTERVIEWER: RECORD VERBATIM RESPONSE. PROBE FOR SPECIFICS. BE SURE TO GET ENOUGH DETAIL FOR CODING OCCUPATION.**

[JOB] \_\_\_\_\_

- MILITARY ..... 96
- HOMEMAKER ..... 97
- PLAN TO RETIRE ..... 98
- NO PLAN FOR FUTURE CAREER ..... 99
- DON'T KNOW ..... d
- REFUSED ..... r

B2. Would this job be in the information technology field, involving tasks like network administration, Web site development, programming, or technical support?

**PROBE IF NEEDED:** By the "IT field" we do not mean jobs where people use computers for tasks such as word-processing or data entry.

- YES ..... 01
- NO ..... 00
- DON'T KNOW ..... d
- REFUSED ..... r

B3. Will you need more schooling for this job?

- YES ..... 01
- NO ..... 00 → SKIP TO B5
- DON'T KNOW..... d
- REFUSED ..... r → SKIP TO B5

B4. How far in school do you think you will have to go to get that kind of job?

**IF RESPONDENT SAYS THEY HAVE TO COMPLETE PROGRAM CURRENTLY IN, PROBE:** And how much education will you have then?

- HIGH SCHOOL DIPLOMA OR GED..... 01
  - SOME VOCATIONAL, TRADE OR BUSINESS SCHOOL..... 02
  - A DEGREE FROM A VOCATIONAL, TRADE OR BUSINESS SCHOOL ..... 03
  - ONE YEAR CERTIFICATE PROGRAM ..... 04
  - SOME COLLEGE EDUCATION ..... 05
  - 2 YEAR COLLEGE /ASSOCIATE DEGREE..... 06
  - 4 OR 5 YEAR COLLEGE DEGREE..... 07
  - MASTER'S DEGREE OR EQUIVALENT ..... 08
  - PH.D., M.D., J.D. OR OTHER PROFESSIONAL DEGREE ..... 09
  - SPECIALIZED TRAINING..... 10
  - OTHER (SPECIFY)..... 96
- 
- NO EDUCATION REQUIRED..... 97
  - DON'T KNOW..... d
  - REFUSED ..... r

B5. Over the past few weeks have you been working, going to school, in a training program, in the military, or doing something else?

**IF RESPONDENT SAYS "YES," PROBE FOR SPECIFICS.**

CIRCLE ALL THAT APPLY

WORKING ..... 01

GOING TO SCHOOL..... 02

SOMETHING ELSE (SPECIFY) ..... 03

---

DON'T KNOW..... d

REFUSED..... r

**C. IT CLASS**

For the next series of questions I would like you to focus on **[IT CLASS LISTED ON FOLD-OUT SHEET]** that you took during the 1999-2000 school year, even if you took other computer classes since or before that class.

C1. In which month and year did \_\_\_\_\_ start?  
[the IT CLASS]

|\_|\_| / |\_|\_|\_|\_|\_|  
 MONTH YEAR

DON'T KNOW..... d  
 REFUSED ..... r

C2. And when did it end?

|\_|\_| / |\_|\_|\_|\_|\_|  
 MONTH YEAR

CLASS STILL GOING ON..... 00  
 DON'T KNOW..... d  
 REFUSED ..... r

C3. Was tuition for this class covered by your employer, by you, by your family, by scholarships or loans, or by someone else?

CIRCLE ALL THAT APPLY

EMPLOYER..... 01  
 RESPONDENT..... 02  
 RESPONDENT'S FAMILY..... 03  
 SCHOLARSHIPS/LOANS ..... 04  
 SOMEONE ELSE (SPECIFY) ..... 05

---

DON'T KNOW..... d  
 REFUSED ..... r

C4. People have many reasons for taking information technology classes. Some take them for fun, some to fulfill requirements, and some to prepare for jobs or because an employer suggested it.

How important was each of the following in your decision to take \_\_\_\_\_ (READ ITEM) Was this a very important reason, a [THIS IT CLASS] somewhat important reason, or not an important reason you decided to take this IT class? **CONTINUE WITH EACH ITEM.**

	Very Important	Somewhat Important	Not Important	NOT APPLICABLE	DON'T KNOW	REFUSED
a. For fun, a hobby, or personal interest.....	01	02	03	04	d	r
b. Because it met school or program requirements.....	01	02	03	04	d	r
c. To prepare for a job or pursue career goals.....	01	02	03	04	d	r
d. To earn a promotion or because your employer recommended that you take the class.....	01	02	03	04	d	r

C5. Now, I'd like you to tell me how helpful this IT class actually was in each of the following. First, how helpful was the class in preparing you for a job that you got after taking the class. Was the class . . .

- Very helpful,..... 01
- Somewhat helpful,..... 02
- Not too helpful, or ..... 03
- Not at all helpful?..... 04
- NOT APPLICABLE/DID NOT GET JOB ..... 05
- DON'T KNOW..... d
- REFUSED ..... r

C6. How helpful was the class in preparing you for the type of job you want to get in the future? (Was the class . . .)

- Very helpful,..... 01
- Somewhat helpful, ..... 02
- Not too helpful, or ..... 03
- Not at all helpful? ..... 04
- NOT APPLICABLE/  
DIDN'T WANT FUTURE JOB ..... 05
- DON'T KNOW..... d
- REFUSED ..... r

C7. And what about clarifying your career goals? (Was the class . . .)

- Very helpful,..... 01
- Somewhat helpful, ..... 02
- Not too helpful, or ..... 03
- Not at all helpful? ..... 04
- NOT APPLICABLE/DID NOT WANT  
A CAREER/WAS TAKING CLASS  
FOR FUN..... 05
- DON'T KNOW..... d
- REFUSED ..... r

**NO C7a IN COMMUNITY COLLEGE SURVEY.**

C8. Was \_\_\_\_\_ supposed to prepare students  
for a specific IT skill certificate test or tests?

[IT CLASS]

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r



C9. Which certificate test or tests was it supposed to prepare you for? **RECORD FIRST THREE TESTS MENTIONED ACROSS TOP OF GRID BELOW.**

NAMES OF TESTS (C9) →	a.	b.	c.
	IT TEST 1	IT TEST 2	IT TEST 3
C10. Did you take the test for (INSERT TEST NAME)?	YES ..... 01 NO.....(GO TO C10-TEST 2) .....00 DK.....(GO TO C10-TEST 2)..... d REF...(GO TO C10-TEST 2) ..... r	YES .....01 NO.....(GO TO C10-TEST 3) .....00 DK.....(GO TO C10-TEST 3)..... d REF...(GO TO C10-TEST 3)..... r	YES .....01 NO .....00 DK .....d REF .....r
C11. Did you pass this test?	YES ..... 01 NO .....00 DON'T KNOW ..... d REFUSED ..... r	YES .....01 NO .....00 DON'T KNOW ..... d REFUSED ..... r	YES .....01 NO .....00 DON'T KNOW .....d REFUSED .....r
C12. How many times have you taken this test, (including the time you passed it)?	<input type="text"/> → . GO TO C10, 2nd TEST	<input type="text"/> → GO TO C10, 3rd TEST	<input type="text"/>

C13. Other than the test(s) that you just told me about, have you ever taken any other IT skill certification tests?

**PROBE:** This includes IT tests you may have taken for recertification, or tests you took from another school or tests you took after self-study.

YES ..... 01  
 NO ..... 00  
 DON'T KNOW ..... d  
 REFUSED ..... r

} → **SKIP TO D1**

C14. Which other tests have you taken that you have passed? **LIST OUT THE NAMES OF THE FIRST THREE TESTS MENTIONED IN C14 ACROSS THE TOP OF THE GRID. THEN ASK C15 FOR EACH TEST. RECORD ANSWERS DOWN EACH COLUMN**

	a.	b.	c.																								
C14. NAMES OF OTHER IT TESTS →	_____ OTHER TEST 1	_____ OTHER TEST 2	_____ OTHER TEST 3																								
C15. In what month and year did you take (INSERT OTHER TEST NAME)?	<table style="margin-left: auto; margin-right: auto;"> <tr><td> _ </td><td> _ </td></tr> <tr><td colspan="2">MONTH</td></tr> </table>	_	_	MONTH		<table style="margin-left: auto; margin-right: auto;"> <tr><td> _ </td><td> _ </td></tr> <tr><td colspan="2">MONTH</td></tr> </table>	_	_	MONTH		<table style="margin-left: auto; margin-right: auto;"> <tr><td> _ </td><td> _ </td></tr> <tr><td colspan="2">MONTH</td></tr> </table>	_	_	MONTH													
_	_																										
MONTH																											
_	_																										
MONTH																											
_	_																										
MONTH																											
<b>PROBE:</b> Please tell me for the most recent test that you have passed.	<table style="margin-left: auto; margin-right: auto;"> <tr><td> _ </td><td> _ </td><td> _ </td><td> _ </td></tr> <tr><td colspan="4">YEAR</td></tr> </table>	_	_	_	_	YEAR				<table style="margin-left: auto; margin-right: auto;"> <tr><td> _ </td><td> _ </td><td> _ </td><td> _ </td></tr> <tr><td colspan="4">YEAR</td></tr> </table>	_	_	_	_	YEAR				<table style="margin-left: auto; margin-right: auto;"> <tr><td> _ </td><td> _ </td><td> _ </td><td> _ </td></tr> <tr><td colspan="4">YEAR</td></tr> </table>	_	_	_	_	YEAR			
_	_	_	_																								
YEAR																											
_	_	_	_																								
YEAR																											
_	_	_	_																								
YEAR																											
	DON'T KNOW ..... d REFUSED ..... r	DON'T KNOW ..... d REFUSED ..... r	DON'T KNOW ..... d REFUSED ..... r																								

**NO C16 IN COMMUNITY COLLEGE SURVEY.**

**D. ABOUT PROGRAM**

D1. Now I have some more questions about \_\_\_\_\_  
[THE IT CLASS]

Were you taking that class as part of a larger program to get a degree, certificate, or other credential?

- YES ..... 01
  - NO ..... 00
  - DON'T KNOW..... d
  - REFUSED ..... r
- } → SKIP TO D8

D2. What degree, certificate or credential was that?

- HIGH SCHOOL DIPLOMA OR GED ..... 01
  - VOCATIONAL, TRADE, OR BUSINESS SCHOOL DEGREE ..... 02
  - 1 YEAR CERTIFICATE PROGRAM..... 03
  - SPECIFIC CERTIFICATE OR LICENSE ,..... 04
  - ASSOCIATE'S DEGREE..... 05
  - BACHELOR'S DEGREE..... 06
  - MASTER'S DEGREE OR EQUIVALENT ..... 07
  - PH.D., ..... 08
  - M.D., J.D. OR OTHER PROFESSIONAL DEGREE..... 09
  - OTHER (SPECIFY) ..... 96
  - \_\_\_\_\_
  - DON'T KNOW ..... d
  - REFUSED ..... r
- } → SKIP TO D6
- } → SKIP TO D6
- } → ASK D3
- } → SKIP TO D4
- } → SKIP TO D6

D3. **IF COLLEGE, ASK:** What was your major?

[MAJOR] \_\_\_\_\_

DON'T KNOW..... d

REFUSED ..... r

**ALL ANSWERING D3, GO TO D6**

D4. Is this the same certificate I just asked you about?

YES ..... 01 → SKIP TO D6

NO ..... 00

DON'T KNOW..... d

REFUSED ..... r

D5. What is the name of the certificate? **RECORD VERBATIM. ACCEPT MORE THAN ONE ANSWER.**

\_\_\_\_\_ RECORD VERBATIM

DON'T KNOW..... d

REFUSED ..... r

D6. Did you get any credits for \_\_\_\_\_ that count towards this degree or credential?

[IT CLASS]

YES ..... 01

NO ..... 00

DON'T KNOW..... d

REFUSED ..... r

D7. Is this a program designed to prepare students for careers in information technology fields?

**IF NEEDED READ:** By information technology careers, we mean jobs that focus on tasks such as network administration, Web site development, programming and technical support. This would not include jobs that use computers for tasks like word-processing or data entry.

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

D8. Did you earn the degree or credential?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

D9. While taking \_\_\_\_\_, were you enrolled in any other classes--they can be either other computer classes or non-computer classes?  
[THE IT CLASS]

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

D10. Including \_\_\_\_\_, how many information technology classes have you taken? Please include IT classes taken since leaving high school.  
[THE IT CLASS]

\_\_\_\_|\_\_\_\_| CLASSES

- DON'T KNOW..... d
- REFUSED ..... r

**E. POSTSECONDARY PROGRAMS ENTERED AFTER IT CLASS**

E1. Next, I'd like to ask you questions about any schools or education or training programs you've been in since June 2000. These may or may not be related to computer or information technology. Please don't include any programs we already discussed.

How many different schools, education, job training, or military programs have you participated in since then?

**PROBE:** Please include college, technical or trade school, but exclude any training programs provided where you work.

NONE ..... 00 → SKIP TO F1, PAGE 25

|\_\_| |\_\_| # OF PROGRAMS--RECORD ON FOLD-OUT SHEET

DON'T KNOW..... d  
REFUSED ..... r → SKIP TO F1, PAGE 25

E2. What is the name of the most recent school or program that you've been in?

[PROGRAM] \_\_\_\_\_

DON'T KNOW..... d

REFUSED ..... r

E3. What type of school or training was this program?

- ABE – ADULT BASIC EDUCATION PROGRAM (PRE-GED) ..... 01
  - GED PROGRAM ..... 02
  - ESL – ENGLISH AS A SECOND LANGUAGE PROGRAM ..... 03
  - NURSING SCHOOL (LPN OR RN)/ HOME HEALTH..... 04
  - BUSINESS OR SECRETARIAL SCHOOL ..... 05
  - VOCATIONAL, TECHNICAL, OR TRADE SCHOOL ..... 06
  - APPRENTICESHIP ..... 07
  - BASIC MILITARY TRAINING ..... 08
  - ADVANCED MILITARY TRAINING ..... 09
  - ONE YEAR CERTIFICATE PROGRAM ..... 10
  - COMMUNITY, TECHNICAL, OR JUNIOR COLLEGE (2 YEAR) ..... 11
  - COLLEGE/UNIVERSITY (4 YEAR) ..... 12
  - SPECIALIZED TRAINING/CERTIFICATE..... 13
  - OTHER TYPE (SPECIFY) ..... 14
- 
- DON'T KNOW..... d
  - REFUSED ..... r

E4. In what month and year did you start attending this school or program?

[START] | | / | | | | |  
 MONTH YEAR

- DON'T KNOW..... d
- REFUSED ..... r

E5. And in what month and year did you stop attending this school or program or are you still attending?

[STOP] | | | / | | | | |  
MONTH YEAR

- STILL ATTENDING ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

E6. (Did you/If you finish this program will you) receive some type of degree, certificate or other credential from this school or program?

- YES ..... 01
  - NO ..... 00
  - DON'T KNOW..... d
  - REFUSED ..... r
- SKIP TO E10

E7. What type of degree, certificate or credential (would you/did you) earn in this school or program?

- |  |    |   |              |
|--|----|---|--------------|
| HIGH SCHOOL DIPLOMA OR GED .....                   | 01 | } | → SKIP TO E9 |
| VOCATIONAL, TRADE, OR BUSINESS SCHOOL DEGREE ..... | 02 |   |              |
| 1 YEAR CERTIFICATE PROGRAM (SPECIFY) .....         | 03 |   |              |
| _____  |    |   |              |
| SPECIFIC CERTIFICATE OR LICENSE (SPECIFY).....     | 04 | } | → ASK E8     |
| _____  |    |   |              |
| ASSOCIATE'S DEGREE.....                            | 05 |   |              |
| BACHELOR'S DEGREE.....                             | 06 |   |              |
| MASTER'S DEGREE OR EQUIVALENT .....                | 07 | } | → SKIP TO E9 |
| PH.D., .....                                       | 08 |   |              |
| M.D., J.D. OR OTHER PROFESSIONAL DEGREE.....       | 09 |   | → SKIP TO E9 |
| OTHER (SPECIFY) .....                              | 96 | } | → SKIP TO E9 |
| _____  |    |   |              |
| DON'T KNOW.....                                    | d  |   |              |
| REFUSED .....                                      | r  |   |              |

E8. **ASK ONLY IF COLLEGE DEGREE:** What (is/was) your major?

- [MAJOR] \_\_\_\_\_
- DON'T KNOW..... d
- REFUSED ..... r

E9. Did you get any credits for \_\_\_\_\_ that count towards this degree or other credential? [IT CLASS]

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

E10. Is the cost of attending this school or program covered by your employer, by you, by your family, by scholarships or loans, or by someone else?

CIRCLE ALL THAT APPLY

- EMPLOYER..... 01
  - RESPONDENT..... 02
  - RESPONDENT'S FAMILY..... 03
  - SCHOLARSHIPS/LOANS ..... 04
  - SOMEONE ELSE (SPECIFY) ..... 05
- 
- DON'T KNOW..... d
  - REFUSED ..... r

E11. Did an employer encourage you to enter this school or program?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

E12. Is this a program designed to prepare students for careers in information technology fields?

**IF NEEDED READ:** By information technology, we mean careers that focus on network administration, Web site development, programming and technical support. This would not include jobs that use computers for such tasks as word-processing or data entry in order to do the work.

YES ..... 01 → GO TO F1, PAGE 25  
 NO ..... 00  
 DON'T KNOW..... d  
 REFUSED ..... r

**INTERVIEWER CHECK: WAS RESPONDENT IN MORE THAN ONE PROGRAM (E1 >1)--CHECK FOLD-OUT SHEET**

YES, MORE THAN ONE PROGRAM..... 01 → CONTINUE  
 NO ..... 00 → SKIP TO F1, PAGE 25

**CONTINUATION OF MODULE E FOR SECOND PROGRAM**

E13. Since June of 2000, have you been in any school, education or training program designed to prepare students for careers in information technology fields?

YES ..... 01  
 NO ..... 00  
 DON'T KNOW..... d  
 REFUSED ..... r

} → GO TO F1, PAGE 25

E13a. Can you tell me the name of that education or training program? Don't include any program we already talked about. **IF RESPONDENT MENTIONS MORE THAN ONE, ASK FOR MOST RECENT PROGRAM.**

[PROGRAM] \_\_\_\_\_  
 DON'T KNOW..... d  
 REFUSED ..... r

E14. What type of school or training was this program?

- ABE – ADULT BASIC EDUCATION PROGRAM (PRE-GED) ..... 01
  - GED PROGRAM ..... 02
  - ESL – ENGLISH AS A SECOND LANGUAGE PROGRAM ..... 03
  - NURSING SCHOOL (LPN OR RN)/ HOME HEALTH..... 04
  - BUSINESS OR SECRETARIAL SCHOOL ..... 05
  - VOCATIONAL, TECHNICAL, OR TRADE SCHOOL ..... 06
  - APPRENTICESHIP ..... 07
  - BASIC MILITARY TRAINING ..... 08
  - ADVANCED MILITARY TRAINING ..... 09
  - ONE YEAR CERTIFICATE PROGRAM ..... 10
  - COMMUNITY, TECHNICAL, OR JUNIOR COLLEGE (2 YEAR) ..... 11
  - COLLEGE/UNIVERSITY (4 YEAR) ..... 12
  - SPECIALIZED TRAINING/CERTIFICATE..... 13
  - OTHER TYPE (SPECIFY) ..... 14
- 
- DON'T KNOW..... d
  - REFUSED ..... r

E15. In what month and year did you start attending this school or program?

[START] | | / | | | | |  
MONTH YEAR

- DON'T KNOW..... d
- REFUSED ..... r

E16. And in what month and year did you stop attending this school or program or are you still attending?

[STOP] |\_\_|\_\_| / |\_\_|\_\_|\_\_|\_\_|  
MONTH YEAR

- STILL ATTENDING ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

E17. (Did you/If you finish this school program will you) receive some type of degree, certificate or other credential from this school or program?

- YES ..... 01
  - NO ..... 00
  - DON'T KNOW..... d
  - REFUSED ..... r
- SKIP TO E21

E18. What type of degree, certificate or credential (would you/did you) earn in this school or program?

- |  |    |   |               |
|--|----|---|---------------|
| HIGH SCHOOL DIPLOMA OR GED .....                   | 01 | } | → SKIP TO E20 |
| VOCATIONAL, TRADE, OR BUSINESS SCHOOL DEGREE ..... | 02 |   |               |
| 1 YEAR CERTIFICATE PROGRAM (SPECIFY) .....         | 03 |   |               |
| _____  |    |   |               |
| SPECIFIC CERTIFICATE OR LICENSE (SPECIFY).....     | 04 |   |               |
| _____  |    |   |               |
| ASSOCIATE'S DEGREE.....                            | 05 | } | → ASK E19     |
| BACHELOR'S DEGREE.....                             | 06 |   |               |
| MASTER'S DEGREE OR EQUIVALENT .....                | 07 |   |               |
| PH.D., .....                                       | 08 |   |               |
| M.D., J.D. OR OTHER PROFESSIONAL DEGREE.....       | 09 |   | → SKIP TO E20 |
| OTHER (SPECIFY) .....                              | 96 | } | → SKIP TO E20 |
| _____  |    |   |               |
| DON'T KNOW.....                                    | d  |   |               |
| REFUSED .....                                      | r  |   |               |

E19. **ASK ONLY IF COLLEGE DEGREE:** What (is/was) your major?

- [MAJOR] \_\_\_\_\_
- DON'T KNOW..... d
- REFUSED ..... r

E20. Did you get any credits for \_\_\_\_\_ that  
count towards this degree or other credential? [IT CLASS]

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

E21. Is the cost of attending this school or program covered by your employer, by you, by your family, by scholarships or loans, or by someone else?

CIRCLE ALL THAT APPLY

- EMPLOYER..... 01
- RESPONDENT..... 02
- RESPONDENT'S FAMILY..... 03
- SCHOLARSHIPS/LOANS ..... 04
- SOMEONE ELSE (SPECIFY) ..... 05

---

- DON'T KNOW..... d
- REFUSED ..... r

E22. Did an employer encourage you to enter this school or program?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

**NO E23 IN COMMUNITY COLLEGE SURVEY.**

**F. EMPLOYMENT**

F1. Next I'd like to ask you about any jobs or paid internships that you've had.

Since September 1999, have you worked in any jobs or paid internships? Do not include odd jobs that you did occasionally. Please include any job that you had in September 1999 that began before September.

- YES ..... 01
- NO ..... 00 → **SKIP TO G1 –  
DEMOGRAPHICS  
PAGE 38**
- DON'T KNOW..... d
- REFUSED ..... r

F2. Are you currently working?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

F3. How many different jobs or paid internships have you had since September 1999? Please include all jobs and internships you've had since September 1999, (including your current job).

- || JOBS/INTERNSHIPS
- DON'T KNOW..... d
- REFUSED ..... r

F4. Thinking about your (current job/most recent job), what (is/was) the name of your employer?

**INTERVIEWER: IF RESPONDENT HAS TWO OR MORE CONCURRENT JOBS, ASK WHICH THEY CONSIDER TO BE THEIR "MAIN" JOB.**

[EMPLOYER NAME] \_\_\_\_\_

DON'T KNOW..... d

REFUSED ..... r

F5. (Is/Was) this a job or a paid internship?

JOB..... 01

PAID INTERNSHIP..... 02

DON'T KNOW..... d

REFUSED ..... r

→ RECORD AS JOB ON FOLD-OUT SHEET

F6. And (do/did) you work for an employer or (are/were) you self-employed?

EMPLOYER..... 01

SELF-EMPLOYED..... 02

DON'T KNOW..... d

REFUSED ..... r

→ RECORD AS EMPLOYER ON FOLD-OUT SHEET

**RECORD INFORMATION FROM F4, F5 AND F6 ON FOLD-OUT SHEET.**

**NO F7 IN COMMUNITY COLLEGE SURVEY.**

**FIRST JOB MODULE**

F8. When did your (job/internship) first start at [INSERT EMPLOYER FROM FOLD-OUT SHEET (F4)]?

**PROBE:** I need the month and year.

[START] |\_\_|\_\_| / |\_\_|\_\_|\_\_|\_\_|  
MONTH YEAR

DON'T KNOW..... d

REFUSED ..... r

F9. And when did it end, or are you still working there?

**INTERVIEWER: IF GAPS IN EMPLOYMENT, RECORD FINAL END DATE.**

[END] |\_\_|\_\_| / |\_\_|\_\_|\_\_|\_\_|  
MONTH YEAR

STILL WORKING THERE ..... 00

DON'T KNOW..... d

REFUSED ..... r

F10. During a typical week, how many hours (do/did) you work there?

|\_\_|\_\_| HOURS

DON'T KNOW..... d

REFUSED ..... r

F11. How much (do/did) you earn at this job (now/when you left) before taxes or deductions were taken out? Please include tips and commissions.

**INTERVIEWER: TRY TO GET A PER HOUR OR PER WEEK AMOUNT.**

\$ |\_\_|\_\_|\_\_|,|\_\_|\_\_|\_\_|.|\_\_|\_\_|

- PER HOUR..... 01
- PER DAY ..... 02
- PER WEEK..... 03
- EVERY TWO WEEKS ..... 04
- TWICE A MONTH..... 05
- PER MONTH..... 06
- PER YEAR ..... 07
- OTHER (SPECIFY) ..... 08

- 
- DON'T KNOW..... d
  - REFUSED ..... r

F12. Did this (job/internship) **primarily** involve information technology tasks?

**PROBE:** By “primarily,” we mean spending at least half your time.

**PROBE:** Information technology tasks might include network administration, Web site development, programming, or technical assistance.

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r



F13. (What does this employer make or do?/What do you make or do?)

**PROBE:** What industry is this employer in? What type of business is this?

**INTERVIEWER: CODE WITH ENOUGH DETAIL. PROBE FOR SPECIFICS.**

[BUSINESS] \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

DON'T KNOW..... d

REFUSED ..... r

F14. What (is/was) your position or title?

**PROBE:** What tasks did you do in this job?

[POSITION OR TITLE] \_\_\_\_\_

NO SPECIFIC TITLE/MULTIPLE TITLES ..... 00

DON'T KNOW..... d

REFUSED ..... r

F15. How often (do/did) you perform the following tasks as part of this (job/internship). **(READ FIRST ITEM.)** (Do/Did) you do this daily, weekly, monthly less often than monthly or never? **CONTINUE WITH REST OF LIST.**

	Daily	Weekly	Monthly	Less Than Monthly	Never	DON'T KNOW	REFUSED
a. Installing, maintaining, or troubleshooting networks, or doing network or server administration? ....	01	02	03	04	05	d	r
b. Setting up, troubleshooting, or configuring desktop computers, doing tech support, or serving at a help desk? .....	01	02	03	04	05	d	r
c. Developing databases or management information systems?..	01	02	03	04	05	d	r
d. Developing or maintaining Web sites? .....	01	02	03	04	05	d	r
e. Developing other types of software programs or doing programming? ....	01	02	03	04	05	d	r

**PROBE:** By other types, we mean excluding programming databases or creating and maintaining Web sites.

F16. Did people from the school where you took \_\_\_\_\_ help you find or get this job?  
[IT CLASS]

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

**INTERVIEWER CHECK: (IS/WAS) THIS JOB SELF-EMPLOYMENT?  
 SEE FOLD-OUT SHEET.**

YES ..... 01 → GO TO G1--  
 DEMOGRAPHICS,  
 PAGE 38

NO ..... 00

F17. Did the employer ever indicate that those with some type of IT skill certificate would be preferred for this job?

YES ..... 01  
NO ..... 00 → SKIP TO F19  
DON'T KNOW..... d  
REFUSED ..... r

F18. Did the employer indicate that only those with an IT skill certificate would be considered for the job?

YES ..... 01  
NO ..... 00  
DON'T KNOW..... d  
REFUSED ..... r

F19. Did the employer ever indicate that those with an IT skill certificate could get a better job or have faster advancement within the company?

YES ..... 01  
NO ..... 00  
DON'T KNOW..... d  
REFUSED ..... r

**ALL THOSE ANSWERING F19, GO TO G1 DEMOS, PAGE 38**

**SECOND JOB MODULE**

F20. Since September 1999, did you have any job or paid internship that primarily involved information technology tasks?

**PROBE:** By "primarily," we mean spending at least half your time.

- YES ..... 01
  - NO ..... 00
  - DON'T KNOW ..... d
  - REFUSED ..... r
- } → GO TO G1--  
DEMOGRAPHICS, PAGE 38

F21. I'd like to talk about the most recent job that primarily involved information technology tasks. First, what was the name of your employer?

- [EMPLOYER]** \_\_\_\_\_ -- **RECORD ON FOLD-OUT SHEET**
- DON'T KNOW ..... d
- REFUSED ..... r

F22. Was this a job or a paid internship? **RECORD ON FOLD-OUT SHEET**

- JOB ..... 01
  - PAID INTERNSHIP ..... 02
  - DON'T KNOW ..... d
  - REFUSED ..... r
- } → **RECORD AS JOB ON FOLD-OUT SHEET**

F23. And did you work for an employer or were you self-employed? **RECORD ON FOLD-OUT SHEET**

- EMPLOYER ..... 01
  - SELF-EMPLOYED ..... 02
  - DON'T KNOW ..... d
  - REFUSED ..... r
- } → **RECORD AS EMPLOYER ON FOLD-OUT SHEET**

F24. When did your (job/internship) first start at [INSERT EMPLOYER FROM FOLD-OUT SHEET (F21)]?

**PROBE:** I need the month and year.

[START] |\_\_|\_\_| / |\_\_|\_\_|\_\_|\_\_|  
MONTH YEAR

DON'T KNOW..... d

REFUSED ..... r

F25. And when did it end, or are you still working there?

**INTERVIEWER: IF GAPS IN EMPLOYMENT, RECORD FINAL END DATE.**

[END] |\_\_|\_\_| / |\_\_|\_\_|\_\_|\_\_|  
MONTH YEAR

STILL WORKING THERE ..... 00

DON'T KNOW..... d

REFUSED ..... r

F26. During a typical week, how many hours (do/did) you work there?

|\_\_|\_\_| HOURS

DON'T KNOW..... d

REFUSED ..... r

F27. How much (do/did) you earn at this job (now/when you left) before taxes or deductions were taken out? Please include tips and commissions.

**INTERVIEWER: TRY TO GET A PER HOUR OR PER WEEK AMOUNT.**

\$ |\_\_|\_\_|\_\_|,|\_\_|\_\_|\_\_|.|\_\_|\_\_|

- PER HOUR..... 01
  - PER DAY..... 02
  - PER WEEK..... 03
  - EVERY TWO WEEKS ..... 04
  - TWICE A MONTH..... 05
  - PER MONTH ..... 06
  - PER YEAR ..... 07
  - OTHER (SPECIFY) ..... 08
- 
- DON'T KNOW..... d
  - REFUSED ..... r

**NO F28 IN COMMUNITY COLLEGE SURVEY.**

F29. (What does this employer make or do?/What do you make or do?)

**PROBE:** What industry is this employer in? What type of business is this?

**INTERVIEWER: CODE WITH ENOUGH DETAIL. PROBE FOR SPECIFICS.**

[BUSINESS] \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- DON'T KNOW..... d
- REFUSED ..... r

F30. What (is/was) your position or title?

**PROBE:** What tasks did you do in this job?

[POSITION OR TITLE] \_\_\_\_\_

NO SPECIFIC TITLE/MULTIPLE TITLES ..... 00

DON'T KNOW..... d

REFUSED ..... r

F31. How often (do/did) you perform the following tasks as part of this (job/internship). **(READ FIRST ITEM.)** (Do/Did) you do this daily, weekly, monthly less often than monthly or never? **CONTINUE WITH REST OF LIST.**

	Daily	Weekly	Monthly	Less Than Monthly	Never	DON'T KNOW	REFUSED
a. Installing, maintaining, or troubleshooting networks, or doing network or server administration? ...	01	02	03	04	05	d	r
b. Setting up, troubleshooting, or configuring desktop computers, doing tech support, or serving at a help desk? .....	01	02	03	04	05	d	r
c. Developing databases or management information systems? ...	01	02	03	04	05	d	r
d. Developing or maintaining Web sites? .....	01	02	03	04	05	d	r
e. Developing other types of software programs or doing programming? ...	01	02	03	04	05	d	r
<b>PROBE:</b> By other types, we mean excluding programming databases or creating and maintaining Web sites.							

F32. Did people from the school where you took \_\_\_\_\_ help you find or get this job? [IT CLASS]

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

**INTERVIEWER CHECK: (IS/WAS) THIS JOB SELF-EMPLOYMENT?  
SEE FOLD-OUT SHEET**

YES..... 01 → GO TO G1--  
DEMOGRAPHICS,  
PAGE 38

NO..... 00

F33. When you got this position, did the employer indicate that those with some type of IT skill certificate would be preferred for this job?

- YES ..... 01
- NO ..... 00 → SKIP TO F35
- DON'T KNOW..... d
- REFUSED ..... r

F34. Did the employer indicate that only those with an IT skill certificate would be considered for the job?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

F35. Did the employer indicate that those with an IT skill certificate could get a better job or have faster advancement within the company?

- YES ..... 01
- NO ..... 00
- DON'T KNOW..... d
- REFUSED ..... r

F36. Now I'd like to ask you about the total amount of work experience you've had.

Approximately how many years have you worked full-time since leaving high school?

**PROBE:** Including your current job(s).

**PROBE:** Even if you didn't finish high school and received a GED later.

|\_|\_| YEARS

- LESS THAN ONE ..... 00
- NO FULL-TIME EXPERIENCE..... 09
- DON'T KNOW..... d
- REFUSED ..... r

→ SKIP TO G1

F37. Of these years, approximately how many were spent in jobs that **primarily** involved information technology tasks?

**PROBE:** Including your current job(s).

**PROBE:** By "primarily," we mean spending at least half your time.

|\_|\_| YEARS

- LESS THAN ONE ..... 01
- ZERO..... 00
- DON'T KNOW..... d
- REFUSED ..... r

**G. DEMOGRAPHICS**

Now I have a few final background questions for you.

G1. How many years of education have you completed or what is the highest degree that you have earned so far?

- SOME HIGH SCHOOL ..... 01
- GED ..... 02
- HIGH SCHOOL..... 03
- LESS THAN TWO YEARS OF VOCATIONAL,  
TRADE OR BUSINESS SCHOOL ..... 04
- TWO YEARS OR MORE OF VOCATIONAL,  
TRADE OR BUSINESS SCHOOL ..... 05
- A DEGREE FROM A VOCATIONAL, TRADE  
OR BUSINESS SCHOOL ..... 06
- SOME COLLEGE EDUCATION ..... 07
- 2 YEAR COLLEGE DEGREE ..... 08
- 4 OR 5 YEAR COLLEGE DEGREE..... 09
- MASTER’S DEGREE OR EQUIVALENT..... 10
- PH.D., ..... 11
- M.D., J.D. OR OTHER  
PROFESSIONAL DEGREE..... 12
- DON’T KNOW ..... d
- REFUSED..... r



G2. In what month and year did you graduate from high school?

|\_|\_| / |\_|\_|\_|\_|\_|  
 MONTH                  YEAR

- DON’T KNOW..... d
- REFUSED ..... r

G3. What was your high school average or grade point average?

\_\_\_\_\_ **RECORD VERBATIM**

DON'T KNOW..... d

REFUSED ..... r

G4. **IF ANY NUMBER GIVEN IN G3, ASK:** And that's a [INSERT NUMBER FROM G3] out of what?

**FOR LETTER GRADES CODE BELOW WITHOUT ASKING**

LETTER GRADE SCALE ..... 01

100 POINT OR PERCENTAGE SCALE ..... 02

4.0 GPA SCALE ..... 03

5.0 GPA SCALE ..... 04

SOMETHING ELSE (SPECIFY) ..... 05

\_\_\_\_\_ DON'T KNOW..... d

REFUSED ..... r

G4a. What is the name of the last math class that you took?

**PROBE WITH LIST IF DON'T KNOW NAME.**

- GENERAL ALGEBRA/ALGEBRA I..... 01
- ADVANCED ALGEBRA/ALGEBRA II..... 02
- GEOMETRY ..... 03
- TRIGONOMETRY ..... 04
- PRE-CALCULUS..... 05
- CALCULUS ..... 06
- BUSINESS MATH ..... 07
- OTHER (SPECIFY) ..... 08

---

- NEVER TOOK ..... 09
- DON'T KNOW..... d
- REFUSED ..... r

G5. What is the highest grade or year of regular school that your mother has completed?

**PROBE:** Please tell me about whoever you consider to be your primary female caregiver or guardian.

- SOME HIGH SCHOOL..... 01
- GED..... 02
- HIGH SCHOOL..... 03
- LESS THAN TWO YEARS OF  
VOCATIONAL, TRADE OR  
BUSINESS SCHOOL ..... 04
- TWO YEARS OR MORE OF  
VOCATIONAL, TRADE OR  
BUSINESS SCHOOL ..... 05
- A DEGREE FROM A VOCATIONAL,  
TRADE OR BUSINESS SCHOOL..... 06
- SOME COLLEGE EDUCATION ..... 07
- 2 YEAR COLLEGE DEGREE..... 08
- 4 OR 5 YEAR COLLEGE DEGREE..... 09
- MASTER'S DEGREE OR EQUIVALENT ..... 10
- PH.D., ..... 11
- M.D., J.D. OR OTHER  
PROFESSIONAL DEGREE..... 12
- DON'T KNOW..... d
- REFUSED ..... r

G6. What is the highest grade or year of regular school that your father has completed?

**PROBE:** Please tell me about whoever you consider to be your primary male caregiver or guardian.

- SOME HIGH SCHOOL..... 01
- GED..... 02
- HIGH SCHOOL..... 03
- LESS THAN TWO YEARS OF VOCATIONAL, TRADE OR BUSINESS SCHOOL ..... 04
- TWO YEARS OR MORE OF VOCATIONAL, TRADE OR BUSINESS SCHOOL ..... 05
- A DEGREE FROM A VOCATIONAL, TRADE OR BUSINESS SCHOOL..... 06
- SOME COLLEGE EDUCATION ..... 07
- 2 YEAR COLLEGE DEGREE..... 08
- 4 OR 5 YEAR COLLEGE DEGREE..... 09
- MASTER'S DEGREE OR EQUIVALENT ..... 10
- PH.D.,..... 11
- M.D., J.D. OR OTHER PROFESSIONAL DEGREE..... 12
- DON'T KNOW..... d
- REFUSED ..... r

G7. During the past 12 months, about how many months have you been employed?

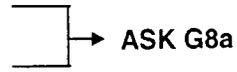
**IF NEEDED:** Either full- or part-time.

- |\_\_|\_\_| MONTHS
- NONE ..... 00
  - DON'T KNOW..... d
  - REFUSED ..... r

G8. What is your age?

|\_\_| |\_\_| AGE → IF AGE GIVEN, GO TO G9

DON'T KNOW..... d  
REFUSED ..... r



G8a. Could you just stop me when I read the age group that you fall into?

20 or younger ..... 01  
21 to 30..... 02  
31 to 40..... 03  
41 to 50..... 04  
Over 50..... 05  
DON'T KNOW..... d  
REFUSED ..... r

G9. Are you of Latino or Spanish descent or origin?

YES ..... 01  
NO ..... 00  
DON'T KNOW..... d  
REFUSED ..... r

G10. Do you consider yourself . . .

White, ..... 01  
Black or African-American, ..... 02  
Asian or Pacific Islander, or ..... 03  
Native American or Alaskan Native? ..... 04  
MIXED OR MULTI-RACIAL (SPECIFY) ..... 05  
\_\_\_\_\_  
Other (SPECIFY) ..... 06  
\_\_\_\_\_  
DON'T KNOW..... d  
REFUSED ..... r

G11. **INTERVIEWER: ASK IF CAN'T DETERMINE:** What is your gender?

MALE..... 01

FEMALE ..... 02

Thank you very much for participating in this important study. Now, we need to get your address so that we can send you a check.

NAME: _____
STREET ADDRESS: _____
CITY, STATE, ZIP: _____

INTERVIEWER NAME: _____
DATE OF INTERVIEW: _____

<b>TIME ENDED:</b>	_ _ : _ _	AM ..... 01
		PM..... 02
<b>ELAPSED TIME:</b>	_ _ : _ _	

# IT SURVEY FOLD-OUT SHEET

<b>IT CLASS:</b> _____ <i>(from sample or named in A7)</i>
---

**NUMBER OF POST-SECONDARY PROGRAMS (E2)** \_\_\_\_\_

EMPLOYER NAME	Job vs. Internship	Employer vs. Self-Employed
JOB #1 (F4) _____	J / I	E / S
JOB #2 (F21) _____	J / I	E / S

(Note: This page will be printed on 11x17 paper. The above page is printed to the far right so that when unfolded, it will be visible to interviewers while conducting the interview)

**APPENDIX C**  
**IT SITE VISIT DISCUSSION GUIDE**

**IT SKILL CERTIFICATION CASE STUDIES**  
**Interview Guide For Site Visits**

**OMB Clearance Number:**  
**Expiration Date:**

**Paperwork Reduction Act Statement:**

A federal agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Public reporting burden for this collection of information is estimated to vary from .5 to 1.5 hours per response with an average of .85 hour per response, for each person who participates in a site visit interview, and a total of 80 hours across all the sites.

**SCHOOL ADMINISTRATOR/INSTRUCTOR  
DISCUSSION GUIDE**

---

**SCHOOL INFORMATION:**

**School Name** \_\_\_\_\_

**Location** \_\_\_\_\_

**RESPONDENT INFORMATION:**

**Name** \_\_\_\_\_

**Phone** \_\_\_\_\_

**Title** \_\_\_\_\_

**Tenure At School** \_\_\_\_\_

**INTRODUCTION:**

We are conducting these visits as part of a study for the U.S. Department of Education on Information Technology classes designed to help students secure industry skill certificates. One of the main goals of this study is to identify lessons learned by schools offering these classes. Our aim is to learn from schools' experience, not to audit or judge particular schools. What you say will be kept confidential: nothing we report will identify you or what you specifically told us. During this discussion, which should take about an hour, we would like to cover three broad topics:

1. Why the IT certification classes were introduced and the sources of support for these programs
2. The content of these classes and how they fit into students overall programs of study
3. How students are recruited, the mix of students who participate, and students performance.

We also would like to go over some of the cost information we had requested in advance of the visit.

Before we begin discussing these issues could you please tell me how long you have been with the school. (If not yet clear) And what is your role in the IT program at your school?

---

**1. WHY AND HOW ITSC CLASSES DEVELOPED**

**1.1 Why were the IT certification class(es) introduced at this school?**

- 1.1.1 When were the IT certification class(es) first offered to students? Were other IT classes previously available? If so, was the IT certification class a way to adjust or complement these classes?
- 1.1.2 What prompted this school to introduce the IT certification class(es)? Who were the initial proponents of the class(es)? What was their rationale and inspiration?
- 1.1.3 Was the introduction of the class(es) a part of broader initiative (Probe: For example, was this part of an effort to develop a broader IT program, to restructure vocational classes, or to introduce skill standards?)

- 1.1.4 What were the stated objectives of the class(es)? Did these objectives change along the way? What are the primary benefits expected for the school? for students?
- 1.1.5 How much emphasis is placed on preparing students for the certification test as opposed to just developing students' IT skills? How focused are the classes on the skills emphasized on the certification test?
- 1.1.6 For which types of jobs or further academic programs are the IT certification class(es) designed to prepare students? How is this different from the types of jobs or programs that traditional IT classes prepare students for?

**1.2 Which groups, outside or within the school, actively supported the development of the IT certification class(es)?**

- 1.2.1 How was support initially built? How were potential supporters identified and approached? How did they lend assistance?
- 1.2.2 Did any reservations or opposition exist? Why?

**1.3 How did you develop or adapt the curriculum for these class(es)?**

- 1.3.1 Who developed the curriculum and lesson plans used in these class(es)? (Probe: what was the role of certification companies, teachers, local employers other organizations)?
- 1.3.2 How easy was it to obtain needed information from the certification company(ies)?
- 1.3.3 Was any technical assistance received or needed to adapt curriculum? Who provided assistance?
- 1.3.4 Is the curriculum designed to articulate with (other) postsecondary programs, or include special components that address skill needs of local employers? What challenges were involved in figuring out how to adapt curriculum to achieve these objectives?

**1.4 How are teachers recruited and trained?**

- 1.4.1 How were teachers recruited and selected to teach the class(es)?
- 1.4.2 What type of prior training, academic background, or work experience do teachers have? Which types of teachers are best suited for these class(es)?
- 1.4.3 Do teachers have certifications? Which type(s)?
- 1.4.4 What type of up front or ongoing professional development is needed by teachers to keep up with changes in software, computer systems, or skill certificate tests? To what extent are these activities readily available?

**2. HOW CLASSES FIT INTO STUDENTS' PROGRAMS OF STUDY, AND COST**

- 2.1 What is the average class size and schedule?

- 2.1.1 What is the average class size of IT certification class(es)? Is this class size intentional or does it simply reflect how many students signed up for the classes? What factors were considered in defining this class size? What is the ideal class size? How does this compare with: the typical class size for IT or vocational classes? general class size in the school?
- 2.1.2 Is there excess demand for the class? If so, how is this dealt with?
- 2.1.3 How long are class periods for the ITSC class(es)? How often do classes meet each week? How long do the ITSC class(es) run during the school year?

## **2.2 Is the IT certification class part of a broader program of study?**

- 2.2.1 Are students encouraged to take a particular sequence of IT or other related classes? general academic classes? If so, which classes are included in this sequence? (At the high school level) How many classes are in this sequence? (At the post-secondary level) How does this sequence of classes relate to IT degree programs?
- 2.2.1 Are students encouraged to get more than one certification?

## **2.3 What are the main class activities?**

- 2.3.1 How do students spend most of their time in the classroom? (Probe: working independently, in group projects, classroom discussion, listening to teacher lecture)?
- 2.3.2 To what extent do students' assignments resemble actual tasks that IT professionals perform? What types of projects do students work on?

## **2.4 Do students participate in related work-based activities ?**

- 2.4.1 Do class(es) offer students IT related paid or unpaid internships while they are in school? If so, how many students are involved? To what extent do internships reinforce skills covered by curriculum or certification tests?
- 2.4.2 Are there any school based enterprises that offer students opportunities to apply IT skills? To what extent do the skills/tasks directly reflect tasks that (local) employers need done? Are there work/volunteer opportunities in the school where students use their IT skills to assist with regular school activities/operations?

## **2.5 How much do the classes cost to develop and run?**

- 2.5.1 How much were start-up costs (such as purchasing computer equipment, acquiring and elaborating curriculum)?
- 2.5.2 What are the on-going costs per enrollee of ITSC class(es)? (Clarify what this includes, i.e. staff, materials, overhead)
- 2.5.3 How often do computer equipment and teaching materials need to be upgraded? Do you have sufficient resources to permit this updating? What is the cost of upgrades? (Clarify whether these costs are included in the on-going costs)

- 2.5.4 How much do certification tests cost students? Who pays for the test? Is there assistance for needy students? Can/do students attempt to pass the test again, if they do not pass on their first attempt?
- 2.5.5 How do the on-going costs compare with those of other IT class(es), or other vocational and/or academic class(es)? If costs are substantially different what are main reasons for these differences? Would costs have been lower if the IT class had been developed without the skill certification?

## **2.6 What are the main sources of funding and staff support for the classes?**

- 2.6.1 Aside from normal district funding, are there resources for these classes from other sources (Probe: local employers, certification companies, public/private grants)? Approximately how much funding comes from each source?
- 2.6.2 What types of effort were required to secure these resources?
- 2.6.3 Are these sources of support on-going or one-time? Will additional support be needed to sustain the ITSC class(es)?
- 2.6.4 Is the district paying more for these classes than other classes?

## **3. MIX OF STUDENTS PARTICIPATING AND THEIR OUTCOMES**

- 3.1.1 Which types of students tend to enroll in these classes?
- 3.1.2 What are students' typical reasons for deciding to participate in ITSC class(es) (i.e. Probe: to prepare for career in IT, computer hobby, fulfill IT-related requirement, prepare for a postsecondary program, OR for postsecondary schools, to advance in a current IT job, to change careers). What are their career goals and to what extent are they focused on IT occupations?
- 3.1.3 Do students have to complete an application process (complete an essay or get letters of recommendation, etc.)?
- 3.1.4 Are there prior grade/course requirements for participating in the ITSC class(es)? What was the rationale for establishing these requirements? Were there competing objectives that had to be balanced (Probe: making sure students have some of the basic skills needed vs. giving a chance to students who don't do well in other classes but might excel in an IT class; rationing available class slots in the case of high demand)?
- 3.1.5 Are there challenges in attracting appropriate students to these class(es)? (For example students with the potential to pass the certification test). How successful are you in attracting these students?
- 3.1.6 Are there any special efforts to recruit a diverse range of students (probe: including females, at-risk students, students with low grades in other courses)? To what extent do these groups participate?

- 3.1.7 (High school only and only if not already clear). How does the background of students in these classes compare with other students in this school? How do they compare with students who participate in traditional IT classes? Or (other) vocational programs?
- 3.1.8 (Post-secondary school only if not already clear). What is the typical career background of students in these classes? (probe: no work experience & planning for an IT career, working in a non-IT related job & planning to change careers, working in an IT related job & looking for further skills/advancement or encouraged/required by employers to attend).

### **3.2 How do participating students respond to the classes and certification tests?**

- 3.2.1 What fraction of the students who enroll actually complete the class?
- 3.2.2 Which types of students tend to complete the IT class and how do they compare with those who drop out of the class?
- 3.2.3 What aspects of the class(es) do students enjoy the most; Are there major portions of the curriculum that students find particularly difficult? What do teachers need to do to engage students in the course material?
- 3.2.4 How many take the certification test? What fraction pass the certification test?
- 3.2.5 Does the school try to convince students or provide some incentive to take the test? Are students' grades tied to their performance on the certification test? What are students typical reasons for taking or not taking the test?
- 3.2.6 Which students with what types of backgrounds tend to do best on the certification test? What types of skills or other preparation is needed?

### **3.3 What do these students typically do after they leave school/complete the class?**

(For high schools)

- 3.3.1 How many graduates' get jobs that draw heavily on the skills or credentials they get from this class? Are there major local employers that hire students for IT jobs? For what types of jobs
- 3.3.2 Are there some local entry level IT jobs that students have difficulty getting? What prevents students from getting these jobs?
- 3.3.3 Are there any job placement services offered to graduating students? Do many students make use of these services?
- 3.3.4 How many graduates' enter other educational programs that make use of the skills or credits they get from this class? Are class(es) articulated with [other] postsecondary programs? How many students have taken advantage of articulation agreements?
- 3.3.5 How do outcomes of those students earning certificates compare with other program graduates?

(For post-secondary schools)

- 3.3.6** How many students get or currently have jobs that draw heavily on the skills or credentials they get from this class? Are there major local employers that hire students for IT jobs? For what types of jobs? Are there major local employers that send employees to the class? What rewards to these students gain? (probe: promotion, prestige of certification, job security).
- 3.3.7** Are there some local IT jobs that students have difficulty getting? What prevents students from getting these jobs?
- 3.3.8** Are there any job placement services offered to students? Do many students make use of these services?
- 3.3.9** How many graduates' enter other educational programs that make use of the skills or credits they get from this class? How many students advance within their current career as a result of the skills or credentials gained from the class? For what types of jobs are these student promoted?
- 3.3.10** How do outcomes of those students earning certificates compare with others in the class?

**INFORMATION TO REQUEST IN ADVANCE OF VISIT**  
 (Site visitors request this information before visit and can secure it before or during visit).

**1. Enrollment in IT Certification Class(es)**

Class Name	Semester of Class/ School Year	# Enrolled	# Securing Certificate (By Type)	# Teachers for Class	# Hours/Week (of Class)	# Weeks (of Class)

**2. Costs**

Start Up Costs

Equipment

Curriculum (including staff cost of adapting curriculum)

On-going Costs Per Enrollee:

Typical ongoing cost per enrollee for other IT classes (non skill certificate):  
 (or average class size and number of teachers)

Typical ongoing cost per enrollee for non-IT classes:  
 (or average class size and number of teachers)

**3. Funding for IT Certification Class (by school year)**

District and regular state aid per student per class:

Special grants by type:

# STUDENT DISCUSSION GUIDE

---

## SCHOOL INFORMATION:

School Name \_\_\_\_\_

Location \_\_\_\_\_

## RESPONDENTS

First Names Of Students

IT Classes Taken

## INTRODUCTION:

Our visit here is part of a study on Information Technology classes designed to help students secure skill certificates. A key goal of this study is to help schools improve these programs. What you say will be kept confidential: nothing we report will identify you or what you specifically told us. During this discussion, which should take about 40 minutes, we would like to cover several topics. On each of these topics we would like to get a sense of the full range of student views. There are no right or wrong answers. So please express your opinion even if you think it may differ from those of most other students.

- 
1. **(High School students) First, I would like to find out a little bit about you. Please tell me your first you name, your grade, and what other IT classes you have taken?**
  2. **(High School). What type of job do you think you might want when you complete your education?**
    - 2.1 How much more education or training do you think you need to get that job?
    - 2.2 (If not already clear) What do you plan to do after you finish high school?
  3. **(College students) First, I would like to find out a little bit about you. Please tell me your first you name and whether you are in a program at this college or just taking the IT certification class (Probe: are you in a program that leads to a degree or certificate?)**
    - 3.1 What other IT or computer classes have you taken?
    - 3.2 Are you employed? If so, what type of job do you have?
    - 3.3 Do you have any goals or plans to try to secure a new job? If so, what type of job do you hope to obtain?

**4. What attracted you to the [IT skill certification] class in the first place?**

- 4.1 What prompted you to take it? Did anyone encourage you to take this class (Probe: your parent, employer, friend)? If so, why did they encourage you to take it?
- 4.2 What made it sound appealing?
- 4.3 How important to you was the idea of getting a skill certificate?
- 4.4 Have you had a job in which an employer or co-worker encouraged you to get the certificate?
- 4.5 Did you fulfill any program or school requirements by taking this class?
- 4.6 Do you expect to enter education programs that make use of the skills or credits you obtained from this class?

**5. What have you liked most about this class?**

- 5.1 What was difficult or not so fun about this class?
- 5.2 For those of you who have taken other computer or IT classes, how does the [IT skill certification] class compare to that?

**6. Have you taken any IT certification tests or do you plan to?**

- 6.1 Why or why not?
- 6.2 What is value of certificate to you? Why do you care or not care about the certificate?
- 6.3 If you have taken the test, did you pass it?
- 6.4 Do you have any other kinds of IT skill certificates (including older ones obtained previously)?
- 6.5 What parts of the test are most difficult?

**7. (High School students) Have you had or do you have a job or internship in the IT field?**

- 7.1 What type of work did or does this involve?
- 7.2 Did you get any of these jobs or internships through school staff?
- 7.3 (High school) Have you done any computer work for the school or worked in any school based enterprises?
- 7.4 Did any of these work experiences draw on skills you learned in the IT certification class?
- 7.5 Did any of these work experiences contribute to your decision to take this class or take it more seriously?

**8. How do you think schools could make these types of IT classes more interesting or useful?**

8.1 How might they change what teachers and students do in the classroom?

8.2 Do you think more or less time should be spent preparing for the certification test?

8.3 How might they change what students do outside of the classroom? For example at their jobs?

## EMPLOYER STAFF DISCUSSION GUIDE

---

### COMPANY INFORMATION:

Company Name \_\_\_\_\_

Number of Students Hired (during past 2 years) \_\_\_\_\_

### RESPONDENT INFORMATION:

Name \_\_\_\_\_

Phone \_\_\_\_\_

Title \_\_\_\_\_

### INTRODUCTION:

Our visit here is part of a study on Information Technology classes designed to help students secure skill certificates. One of the goals of this study is to examine how employers view these classes. What you say will be kept confidential: nothing we report will identify you or what you specifically told us. During this discussion, which should take about an hour, we would like to cover three main topics:

1. The types of IT jobs in your organization and how you screen applicants for these jobs
2. Your experience working with schools with IT certification programs and their students
3. What you see as the strength and weaknesses of these programs and students completing them

---

### 1. TYPES OF IT JOBS IN COMPANY AND VALUE OF CERTIFICATE

#### 1.1. What are the main types of IT jobs you have in your company?

1.1.1. **Probe:** By IT jobs I mean jobs for computer professionals such as those that involve maintaining computers and computer networks, developing internet and intranet websites, development of database systems, and other programming tasks.

1.1.2. Which jobs do entry level employees usually start in?

#### 1.2. How do you screen job applicants for these positions?

1.2.1. What credentials do you usually look for?

1.2.2. How do you assess applicants skills?

1.2.3. About how many people have you hired in these positions in last year or so?

**1.3 To what extent are skill certificates valuable credentials for those applying to IT jobs?**

- 1.3.1. Which types of certificates have some value?
- 1.3.2. For those applying to jobs, what kind information or signal is conveyed by a certificate?
- 1.3.3. How many of the individuals you hired for IT jobs had one of these certificates when you hired them?
- 1.3.4. What types of experience or other credentials can substitute for these skill certificates?
- 1.3.5. How much other education or work experience must those with certificates have for these credentials to have value?

**1.4 Is the certificate a useful for incumbent employees to secure in order to advance within the organization?**

- 1.4.1. Do you encourage any of your incumbent employees to get these certifications? If so, why? (Probe: this encourages employees to acquire new skills? It helps company document staff credentials to clients?)
- 1.4.2. How many of your incumbent employees have obtained certificates?
- 1.4.3. Do you ever pay for training to prepare them for certifications?

**1.5. What is average wage for those in main IT jobs (particularly those for which a skill certificate is valued)?**

- 1.5.1. Do you or would you offer a higher wage to job applicants with skill certificates?
- 1.5.2. If an incumbent employee gets a certificate does that increase the chance of getting a raise or a bigger raise?

**2. EXPERIENCE WORKING WITH SCHOOL AND STUDENTS**

**2.1 What types of contacts have you had with the staff and students involved in the IT program?**

- 2.1.1. How and why did you originally make contact with the school?

**2.2. Have you hired or employed many individuals who have taken the IT certification class?**

- 2.2.1. How many students have you hired or employed? (Probe for number of hires vs. incumbent employees who have taken class)
- 2.2.2. Over what period of time have you hired or employed these students?

2.2.3. For which types of jobs did you hire or employ these students?

2.2.4. What is average level of pay of these employees? How have their wage levels changed since they were hired?

2.2.5. Have you provided any paid or unpaid internships to those in the IT class or program?

**2.3. Did you provide any advice to school staff regarding the IT program or curriculum?**

### **3. PERFORMANCE OF STUDENTS AND PROGRAM**

**3.1. How well do those completing the IT class perform?**

3.1.1. Did any of these individuals get promoted? If so, to what positions?

3.1.2. What are the strengths and weaknesses of the individuals who have completed this class?

**3.2. How could the school try to improve its IT program?**

3.2.1. To what extent should the curriculum be focused mainly on preparing students for the IT certification test?

3.2.2. Which skills should instructors try to emphasize more?

3.2.3. To what extent should students be encouraged to enter postsecondary education or training programs to prepare for the main types of IT jobs at your company?

3.2.3. Do you think students need to take a particular sequence of IT or other related classes to be successful?

2.2.3. For which types of jobs did you hire or employ these students?

2.2.4. What is average level of pay of these employees? How have their wage levels changed since they were hired?

2.2.5. Have you provided any paid or unpaid internships to those in the IT class or program?

**2.3. Did you provide any advice to school staff regarding the IT program or curriculum?**

### **3. PERFORMANCE OF STUDENTS AND PROGRAM**

**3.1. How well do those completing the IT class perform?**

3.1.1. Did any of these individuals get promoted? If so, to what positions?

3.1.2. What are the strengths and weaknesses of the individuals who have completed this class?

**3.2. How could the school try to improve its IT program?**

3.2.1. To what extent should the curriculum be focused mainly on preparing students for the IT certification test?

3.2.2. Which skills should instructors try to emphasize more?

3.2.3. To what extent should students be encouraged to enter postsecondary education or training programs to prepare for the main types of IT jobs at your company?

3.2.3. Do you think students need to take a particular sequence of IT or other related classes to be successful?