

## Tables for Chapter 3

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**TABLE C.1** Student Interviews:

*“What were your favorite subjects in elementary and secondary school?\**”

Top overall responses	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Math	76% (34)	77% (72)	77% (106)
Science	58% (26)	57% (53)	57% (79)
<b>Top nontraditional responses</b>			
Math	76% (34)	77% (72)	77% (106)
Science	58% (26)	57% (53)	57% (79)
English/reading/writing/spelling	24% (11)	33% (31)	30% (42)
<b>Top traditional responses</b>			
Math	76% (34)	77% (72)	77% (106)
Science	58% (26)	57% (53)	57% (79)
English/reading/writing/spelling	24% (11)	33% (31)	30% (42)
Art/music/drama/dance	18% (8)	26% (24)	23% (32)
Social studies/history	9% (4)	24% (22)	19% (26)
Computer classes	2% (1)	19% (18)	14% (19)
<b>Other responses</b>			
Extracurricular/home economics	7% (3)	8% (7)	7% (10)
Languages	7% (3)	4% (4)	5% (7)
Business	0%	2% (2)	1% (2)
None or NA	2% (1)	0%	1% (1)

\*Multiple answers possible: total > 100%.

**TABLE C.2** Student Interviews:*“What are your favorite pastimes now?\**”

Top overall responses	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Sports/exercise	29% (13)	43% (40)	38% (53)
Reading/writing	31% (14)	33% (31)	33% (45)
Music/art/drama/dance	16% (7)	36% (33)	29% (40)
Movies/cultural events/TV/lectures	16% (7)	20% (19)	19% (26)
<b>Top nontraditional responses</b>			
Reading/writing	31% (14)	33% (31)	33% (45)
Sports/exercise	29% (13)	43% (40)	38% (53)
Other	20% (9)	17% (16)	18% (25)
<b>Top traditional responses</b>			
Sports/exercise	29% (13)	43% (40)	38% (53)
Music/art/drama/dance	16% (7)	36% (33)	29% (40)
Reading/writing	31% (14)	33% (31)	33% (45)
Socializing/games/clubs/time with family	13% (6)	30% (28)	25% (34)
Surfing the Internet	7% (3)	18% (17)	15% (20)
Playing computer/video games	9% (4)	17% (16)	15% (20)
<b>Other responses</b>			
Working on computer	16% (7)	17% (16)	17% (23)
Outdoors/beach/travel	13% (6)	17% (16)	16% (22)
Reading computer manuals or text	4% (2)	5% (5)	5% (7)
Studying/learning languages	4% (2)	5% (5)	5% (7)
Cooking	2% (1)	2% (2)	2% (3)
Working	2% (1)	2% (2)	2% (3)
Job hunting/graduate school	2% (1)	2% (2)	2% (3)
None or NA	2% (1)	2% (2)	2% (3)
Volunteering	0%	2% (2)	1% (2)
Shopping	0%	2% (2)	1% (2)
Personal finance/stocks	2% (1)	1% (1)	1% (2)

\*Multiple responses possible: total &gt; 100%.

**TABLE C.3** Student Interviews:*“Why did you choose to pursue an IT/CS degree?\**”

Top overall responses	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Personal interest in computing	64% (29)	59% (55)	61% (84)
Job opportunities	24% (11)	19% (18)	21% (29)
<b>Top nontraditional responses</b>			
Personal interest in computing	64% (29)	59% (55)	61% (84)
Work experience in field/job related	27% (12)	3% (3)	11% (15)
Job opportunities	24% (11)	19% (18)	21% (29)
Earning potential	13% (6)	5% (5)	8% (11)
<b>Top traditional responses</b>			
Personal interest in computing	64% (29)	59% (55)	61% (84)
K-12 class experience	11% (5)	22% (20)	18% (25)
Job opportunities	24% (11)	19% (18)	21% (29)
Natural fit/came easy	4% (2)	13% (12)	10% (14)
Parental or family influences	0%	11% (10)	7% (10)
Interested in video games/animation	0%	7% (6)	4% (6)
<b>Other responses</b>			
Enjoyed computing course in college	7% (3)	11% (10)	9% (13)
Find the field exciting	7% (3)	10% (9)	9% (12)
Enjoy math/science/engineering	4% (2)	11% (10)	9% (12)
Specifics of program attractive	9% (4)	5% (5)	7% (9)
Parent or family member in field	2% (1)	8% (7)	6% (8)
Want to help people/interact with people	4% (2)	4% (4)	4% (6)
Unhappy with first major	2% (1)	5% (5)	4% (6)
Find the field challenging	2% (1)	4% (4)	4% (5)
Technology important/everywhere	4% (2)	3% (3)	4% (5)
Community college experience	7% (3)	1% (1)	3% (4)
Like puzzles/problem-solving	4% (2)	1% (1)	2% (3)
College professor influence	2% (1)	2% (2)	2% (3)
Friend influence	4% (2)	0%	1% (2)
K-12 teacher influence	0%	1% (1)	1% (1)
Scholarships available	0%	1% (1)	1% (1)

\*Multiple responses possible: total &gt; 100%.

**TABLE C.4** Alumni Survey Response:*“Why did you choose to pursue an IT/CS degree?”*

	Nontraditional (n=51)	Traditional (n=123)	All Alumni (n=174)
Personal interest	57% (29)	64% (79)	62% (108)
Salary potential	18% (9)	24% (29)	22% (38)
Opportunities for promotion/advancement	20% (10)	7% (9)	11% (19)
Other influence	4% (2)	2% (3)	3% (5)
Family/parental influence	0%	2% (2)	1% (2)
Friend/peer influence	2% (1)	1% (1)	1% (2)
K-12 teacher influence	0%	0%	0%

**TABLE C.5** Student Interviews:*“Why did you select your current institution?\**”

Top overall responses	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Location	36% (16)	36% (33)	36% (49)
Cost	24% (11)	28% (26)	27% (37)
Program specifics	20% (9)	30% (28)	27% (37)
<b>Top nontraditional responses</b>			
Location	36% (16)	36% (33)	36% (49)
Cost	24% (11)	28% (26)	27% (37)
Reputation of institution	22% (10)	15% (14)	17% (24)
Program specifics	20% (9)	30% (28)	27% (37)
Convenience	13% (6)	4% (4)	7% (10)
Not accepted by first choice	13% (6)	11% (10)	12% (16)
Availability of weekend/night classes	7% (3)	0%	2% (3)
Recommend by employer	7% (3)	0%	2% (3)
Small faculty/student ratio	7% (3)	1% (1)	3% (4)
Can get degree quickly	4% (2)	0%	1% (2)
<b>Top traditional responses</b>			
Location	36% (16)	36% (33)	36% (49)
Program specifics	20% (9)	30% (28)	27% (37)
Cost	24% (11)	28% (26)	27% (37)
Campus life/atmosphere	9% (4)	27% (25)	21% (29)
Recommended by family	7% (3)	14% (13)	12% (16)
Not accepted by first choice	13% (6)	11% (10)	12% (16)
<b>Other responses</b>			
Size of college/university	7% (3)	12% (11)	10% (14)
State institution	7% (3)	11% (10)	9% (13)
Small class size	7% (3)	8% (7)	7% (10)
Good faculty	9% (4)	4% (4)	6% (8)
Financial aid package	2% (1)	7% (6)	5% (7)
Only applied to one school	4% (2)	3% (3)	4% (5)

*(continued)*

**TABLE C.5** Student Interviews (*continued*)

Other responses	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Friends attend	2% (1)	5% (5)	4% (6)
Historically black college and university	2% (1)	4% (4)	4% (5)
Religious affiliation of school	4% (2)	3% (3)	4% (5)
Campus visit	0%	4% (4)	3% (4)
Course/program flexibility	2% (1)	2% (2)	2% (3)
Better job opportunities	2% (1)	2% (2)	2% (3)
Institution responded first	2% (2)	2% (1)	2% (3)
Scholarship	2% (1)	2% (2)	2% (3)
Recommended by friend	2% (1)	1% (1)	1% (2)
Recommended by high school teacher	0%	2% (2)	1% (2)
Low/no admission standards	0%	2% (2)	1% (2)
Research opportunities	0%	2% (2)	1% (2)
Recruiting efforts by college	2% (1)	1% (1)	1% (2)
Didn't care/unsure	0%	1% (1)	1% (1)
Campus resources	0%	1% (1)	1% (1)
Caters to returning students	0%	1% (1)	1% (1)
All-female institution	0%	1% (1)	1% (1)

\*Multiple responses possible: total > 100%.

**TABLE C.6** Student Interviews:*“Was campus culture important in your college decision?”*

	Nontraditional (n=44)	Traditional (n=93)	All Students (n=137)
Specific campus culture important	27% (12)	66% (61)	53% (73)
Campus culture not important	68% (30)	34% (32)	45% (62)
NA	0%	5% (2)	1% (2)

*“Why was campus culture important?”*

	Nontraditional (n=14)	Traditional (n=63)	All Students (n=77)
<b>Top nontraditional responses</b>			
Size of school	11% (5)	27% (25)	22% (30)
Personal attention from faculty/staff	9% (4)	17% (16)	15% (20)
Presence of older/weekend students	9% (4)	0%	3% (4)
Comfortable atmosphere/fit in	7% (3)	22% (20)	17% (23)
Diversity	7% (3)	22% (18)	15% (21)

**Top traditional responses**

Size of school	11% (5)	27% (25)	22% (30)
Comfortable atmosphere/fit in	7% (3)	22% (20)	17% (23)
Diversity	7% (3)	22% (18)	15% (21)
Personal attention from faculty/staff	9% (4)	17% (16)	15% (20)

**Other responses**

Urban environment	0%	9% (8)	6% (8)
Friendliness	0%	9% (8)	6% (8)
Opportunities to socialize	0%	8% (7)	5% (7)
Physical campus important	0%	8% (7)	5% (7)
Physical campus not important	2% (1)	2% (2)	2% (3)
A non-party school	2% (1)	2% (2)	2% (3)
Extracurricular activities	0%	3% (3)	2% (3)
Presence of other minority students	4% (2)	1% (1)	2% (3)
Don't know/unsure	0%	2% (2)	1% (2)
Non-urban environment	0%	1% (1)	1% (1)
Safety	0%	1% (1)	1% (1)

**TABLE C.7** Alumni Survey Responses

Using the following five-point scale, assess the importance of each of the following in your selection of the university/college where you obtained your IT/CS degree.

	Nontraditional (n=52) Rank 1	Traditional (n=122) Rank 4	All (n=174) Rank 2
Geographic location of campus			
Extremely+very important	69% (36)	48% (59)	55% (95)
Extremely+very+somewhat important	87% (45)	83% (101)	84% (146)
Not very+not at all important	14% (7)	17% (21)	16% (28)
NA	0%	0%	0%

	Nontraditional (n=52) Rank 2	Traditional (n=122) Rank 6	All (n=174) Rank 6
Convenience of commute			
Extremely+very important	65% (34)	16% (20)	31% (54)
Extremely+very+somewhat important	71% (37)	31% (38)	43% (75)
Not very+not at all important	23% (12)	39% (47)	34% (59)
NA	6% (3)	30% (37)	23% (40)

	Nontraditional (n=52) Rank 3	Traditional (n=121) Rank 5	All (n=173) Rank 4
Flexibility course offerings			
Extremely+very important	56% (29)	43% (52)	47% (81)
Extremely+very+somewhat important	81% (42)	75% (91)	77% (133)
Not very+not at all important	15% (8)	23% (28)	21% (36)
NA	4% (2)	2% (2)	2% (4)

	Nontraditional (n=52) Rank 4	Traditional (n=123) Rank 3	All (n=175) Rank 3
Cost			
Extremely+very important	50% (26)	49% (60)	49% (86)
Extremely+very+somewhat important	77% (40)	76% (93)	76% (133)
Not very+not at all important	21% (11)	21% (26)	21% (37)
NA	2% (1)	3% (4)	3% (5)

	Nontraditional (n=52) Rank 5	Traditional (n=123) Rank 1	All (n=175) Rank 1
Reputation of institution/ program/professors			
Extremely+very important	44% (23)	75% (92)	66% (115)
Extremely+very+somewhat important	81% (42)	94% (115)	90% (157)
Not very+not at all important	19% (10)	6% (7)	10% (17)
NA	0%	1% (1)	1% (1)

	Nontraditional (n=52) Rank 6	Traditional (n=123) Rank 2	All (n=175) Rank 5
Size and/or culture of institution			
Extremely+very important	27% (14)	53% (65)	45% (79)
Extremely+very+somewhat important	63% (33)	89% (109)	81% (142)
Not very+not at all important	35% (18)	11% (13)	18% (31)
NA	2% (1)	1% (1)	1% (2)

(continued)

**TABLE C.7** Alumni Survey Responses (*continued*)

	Nontraditional (n=52) Rank 7	Traditional (n=123) Rank 10	All (n=175) Rank 9
Employer tuition reimbursement program			
Extremely+very important	19% (10)	2% (3)	7% (13)
Extremely+very+somewhat important	37% (19)	6% (7)	15% (26)
Not very+not at all important	31% (16)	38% (47)	36% (63)
NA	33% (17)	56% (69)	49% (86)

	Nontraditional (n=52) Rank 8	Traditional (n=123) Rank 7	All (n=175) Rank 7
Relative/friend attended			
Extremely+very important	14% (7)	14% (17)	17% (24)
Extremely+very+somewhat important	24% (12)	27% (33)	26% (45)
Not very+not at all important	47% (24)	50% (61)	49% (85)
NA	29% (15)	24% (29)	25% (44)

	Nontraditional (n=52) Rank 9	Traditional (n=122) Rank 8	All (n=174) Rank 8
Presence of minority and/or female students and faculty			
Extremely+very important	12% (6)	12% (15)	12% (21)
Extremely+very+somewhat important	27% (14)	36% (44)	33% (58)
Not very+not at all important	64% (33)	59% (72)	60% (105)
NA	10% (5)	5% (6)	6% (11)

	Nontraditional (n=52) Rank 10	Traditional (n=123) Rank 9	All (n=175) Rank 10
Existence of online courses			
Extremely+very important	8% (4)	2% (3)	4% (7)
Extremely+very+somewhat important	23% (12)	11% (14)	15% (26)
Not very+not at all important	44% (23)	62% (76)	57% (99)
NA	33% (17)	27% (33)	29% (50)

**TABLE C.8** Employee Responses:*“What were your reasons for choosing your college or university?”*

	Nontraditional (n=57)	Traditional (n=58)	All Employees (n=115)
Location/convenience	61% (35)	43% (25)	52% (60)
Strong reputation of program/institution	32% (18)	45% (26)	38% (44)
Financial/expense-related factors	25% (14)	33% (19)	29% (33)
Family/friend connection	14% (8)	34% (20)	24% (28)
Availability of desirable class schedule	42% (24)	5% (3)	23% (27)
Educational environment/atmosphere	11% (6)	22% (13)	17% (19)
Desirable curriculum/major	12% (7)	12% (7)	12% (14)
Less selective institution	4% (2)	3% (2)	3% (4)

**TABLE C.9** Student Interviews: *“What is your minor?”*

	Nontraditional (n=10)	Traditional (n=31)	All Students (n=41)
Computer science/information systems/CIS	9% (4)	8% (7)	8% (11)
Mathematics	7% (3)	8% (7)	7% (10)
Humanities	4% (2)	8% (7)	7% (9)
Business	0%	5% (5)	4% (5)
Social science	0%	3% (3)	2% (3)
English	1% (1)	0%	1% (1)
Sciences	0%	1% (1)	1% (1)
Joint MS program	0%	1% (1)	1% (1)

*“What is your second major?”*

	Nontraditional (n=7)	Traditional (n=15)	All Students (n=22)
Math	4% (2)	4% (4)	4% (6)
Business	4% (2)	4% (4)	4% (6)
Information systems/science	2% (1)	1% (1)	1% (2)
Electrical engineering	2% (1)	1% (1)	1% (2)
Joint MS program	0%	2% (2)	1% (2)
Computer science	2% (1)	0%	1% (1)
Pre-med	0%	1% (1)	1% (1)
Computer engineering	0%	1% (1)	1% (1)
Art	0%	1% (1)	1% (1)

**TABLE C.10** Student Interviews:*“What kinds of preparation would you have wanted more of?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
<b>Top overall responses</b>			
Nothing more	18% (8)	27% (25)	24% (33)
Programming classes	27% (12)	20% (19)	23% (31)
More math	27% (12)	16% (15)	20% (27)
<b>Top nontraditional responses</b>			
More math	27% (12)	16% (15)	20% (27)
Programming classes	27% (12)	20% (19)	23% (31)
Nothing more	18% (8)	27% (25)	24% (33)
Introduction to computers	16% (7)	14% (13)	15% (20)
<b>Top traditional responses</b>			
Nothing more	18% (8)	27% (25)	24% (33)
Programming classes	27% (12)	20% (19)	23% (31)
More math	27% (12)	16% (15)	20% (27)
Introduction to computers	16% (7)	14% (13)	15% (20)
<b>Other responses</b>			
More computer science/classes	9% (4)	12% (12)	12% (16)
Better advising/info about school	4% (2)	4% (4)	4% (6)
Communication skills/work in groups	2% (1)	3% (3)	3% (4)
More physics	4% (2)	3% (2)	3% (4)
More theory	0%	3% (3)	2% (3)
More technical classes	0%	3% (3)	2% (3)
More business-related courses	0%	2% (2)	1% (2)
More work experience	2% (1)	1% (1)	1% (2)
How to work alone/independently	0%	1% (1)	1% (1)
More hands-on experience	2% (1)	0%	1% (1)
Study/organizational skills	0%	1% (1)	1% (1)
NA	16% (7)	7% (6)	9% (13)

**TABLE C.11** Student Interviews:

*“Did you have a different conception of IT/CS before you started your degree than you do now?\**”

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
<b>Top overall responses</b>			
Same conception	31% (14)	23% (21)	25% (35)
Broader conception	18% (8)	18% (17)	18% (25)
Only a vague view at first	18% (8)	12% (11)	14% (19)
<b>Top nontraditional responses</b>			
Same conception	31% (14)	23% (21)	25% (35)
Broader conception	18% (8)	18% (17)	18% (25)
Only a vague view at first	18% (8)	12% (11)	14% (19)
Thought it would be easier	11% (5)	3% (3)	6% (8)
<b>Top traditional responses</b>			
Same conception	31% (14)	23% (21)	25% (35)
Not just programming	4% (2)	22% (20)	16% (22)
Broader conception	18% (8)	18% (17)	18% (25)
More detail-oriented	4% (2)	8% (7)	7% (9)
<b>Other responses</b>			
Expected less programming	7% (3)	10% (9)	9% (12)
More math-oriented	9% (4)	7% (6)	7% (10)
See more opportunities now	2% (1)	8% (7)	6% (8)
Has more subfields	2% (1)	8% (7)	6% (8)
Involves a lot of theory	2% (1)	7% (6)	5% (7)
Don't know/unsure	4% (2)	4% (4)	4% (6)
More technical	2% (1)	5% (5)	4% (6)
Thought it was harder/more complicated	4% (2)	2% (2)	3% (4)
NA	2% (1)	3% (3)	3% (4)
Thought it involved more hardware	2% (1)	2% (2)	2% (3)
Thought it involved more variety	2% (1)	1% (1)	1% (2)
Thought of it as Internet-related/web-based	2% (1)	1% (1)	1% (2)
More science-oriented	2% (1)	1% (1)	1% (2)
I now see a difference between CS and IT	2% (1)	1% (1)	1% (2)
Field is narrower than I thought	0%	1% (1)	1% (1)
One must have a "gift" for it	0%	1% (1)	1% (1)
Field to make a lot of money	0%	1% (1)	1% (1)
Thought it was just chat rooms/games	2% (1)	0%	1% (1)
More people-oriented	0%	1% (1)	1% (1)

\*Multiple answers possible: total > 100%.

**TABLE C.12** Student Interviews:*“Do you have a different conception of computer scientists?\**”

Top overall responses	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
NA	40% (18)	24% (22)	30% (40)
Same	13% (6)	22% (20)	19% (26)
Know more about the type of work they do	20% (9)	16% (15)	17% (24)
<b>Top nontraditional responses</b>			
NA	40% (18)	24% (22)	30% (40)
Know more about the type of work they do	20% (9)	16% (15)	17% (24)
Same	13% (6)	22% (20)	19% (26)
Didn't know much/had no idea	11% (5)	5% (5)	7% (10)
<b>Top traditional responses</b>			
NA	40% (18)	24% (22)	30% (40)
Same	13% (6)	22% (20)	19% (26)
Know more about the type of work they do	20% (9)	16% (15)	17% (24)
Their work has more variety	2% (1)	15% (14)	11% (15)
<b>Other responses</b>			
Not just programmers	2% (1)	10% (9)	7% (10)
Not all nerds/geeks	7% (3)	5% (5)	6% (8)
They are theorists/creative thinkers	2% (1)	8% (7)	6% (8)
Have broader interests	2% (1)	8% (7)	6% (8)
Are basically programmers	4% (2)	3% (3)	4% (5)
Their work has less variety	4% (2)	3% (3)	4% (5)
More problem-solvers	0%	4% (4)	3% (4)
Live on the computer	4% (2)	2% (2)	3% (4)
They work harder	2% (1)	2% (2)	2% (3)
Do more research	0%	3% (3)	2% (3)
Have a lot of opportunities	0%	3% (3)	2% (3)
Not antisocial	2% (1)	1% (1)	1% (2)
More like mathematicians	0%	2% (2)	1% (2)
They have more responsibility	0%	2% (2)	1% (2)
Mostly men	0%	2% (2)	1% (2)
More like scientists	0%	1% (1)	1% (1)

\*Multiple answers possible: total &gt; 100%.

**TABLE C.13** Student Interviews:*“Are there particular classes that are extraordinarily difficult?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
<b>Top overall responses</b>			
Programming	31% (14)	26% (24)	28% (38)
No difficult classes	27% (12)	15% (14)	19% (26)
Math classes/calculus	24% (11)	15% (14)	18% (25)
<b>Other notable responses</b>			
Software design	0%	10% (9)	7% (9)
Theory	7% (3)	2% (2)	4% (5)
Operating systems	2% (1)	15% (14)	11% (15)
<b>Other responses</b>			
Algorithms	4% (2)	11% (10)	9% (12)
Introduction to computer science	0%	6%	4% (6)
Data structures	7% (3)	7% (6)	7% (9)
Assembly language	4% (2)	7% (6)	6% (8)
Operations research	2% (1)	0%	1% (1)
Physics	9% (4)	5% (5)	7% (9)
Senior design/project	0%	1% (1)	1% (1)
Systems programming	2% (1)	3% (3)	3% (4)
Finite automata	2% (1)	2% (2)	2% (3)
Networking	0%	5% (5)	4% (5)
Databases	0%	2% (2)	1% (2)
Graphics	2% (1)	2% (2)	2% (3)
Artificial intelligence	2% (1)	1% (1)	1% (2)
Discrete math	4% (2)	8% (7)	7% (9)
Computer architecture	0%	2% (2)	1% (2)
Software engineering	0%	1% (1)	1% (1)
Instrumentation	0%	1% (1)	1% (1)
Distributed systems	0%	1% (1)	1% (1)
Differential equations	0%	1% (1)	1% (1)
Numerical methods	2% (1)	0%	1% (1)
Systems analysis	2% (1)	1% (1)	1% (2)
NA	4% (2)	3% (3)	4% (5)

*“Are these courses considered weedouts?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	31% (14)	31% (29)	31% (43)
No	33% (15)	38% (35)	36% (50)
Not intentionally/not by design	4% (2)	5% (5)	5% (7)
Maybe/don't know/unsure	7% (3)	8% (7)	7% (10)
NA	24% (11)	18% (17)	20% (28)

*“Have these courses caused you to consider dropping out of the major?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	18% (8)	17% (16)	17% (24)
No	44% (20)	54% (50)	51% (70)
NA	38% (17)	29% (27)	32% (44)

**TABLE C.14** Student Interviews:*“How comfortable are you in your program or department?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Comfortable/pretty comfortable	47% (21)	43% (40)	44% (61)
Very comfortable	47% (21)	44% (41)	45% (62)
Uncomfortable	0%	10% (9)	7% (9)
Don't know/unsure	4% (2)	1% (1)	2% (3)
NA	2% (1)	2% (2)	2% (3)

*“Do you feel that all students are treated the same?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	53% (24)	51% (47)	51% (71)
No	18% (8)	12% (11)	14% (19)
Don't know/unsure	2% (1)	1% (1)	1% (2)
NA	27% (12)	37% (34)	33% (46)

*“Do you feel that you are part of a group?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	16% (7)	29% (27)	25% (34)
No	11% (5)	10% (9)	10% (14)
Don't know/unsure	2% (1)	1% (1)	1% (2)
NA	71% (32)	60% (56)	64% (88)

**TABLE C.15** Student Interviews:

*“Have you had any difficulties in getting the classes you need to complete your degree in a timely matter?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	53% (24)	25% (23)	34% (47)
No	47% (21)	73% (68)	65% (89)
NA	0%	2% (2)	1% (2)

*“What kinds of difficulties?”*

	Nontraditional (n=23)	Traditional (n=25)	All Students (n=48)
Scheduling problems/courses clash	24% (11)	11% (10)	15% (21)
Courses not offered often enough	16% (7)	9% (8)	11% (15)
Courses full	9% (4)	5% (5)	7% (9)
Courses not offered at convenient times	7% (3)	4% (4)	5% (7)
Faculty shortage	2% (1)	3% (3)	3% (4)
Can only take so many courses per semester	0%	1% (1)	1% (1)
Transferring credits caused problems	4% (2)	0%	1% (2)

*“Do you feel that you’ve had the same access to resources as other students in your degree program?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	80% (36)	87% (81)	85% (117)
Mostly	9% (4)	8% (7)	8% (11)
No	11% (5)	5% (5)	7% (10)

*“What resources do you feel you don’t have adequate access to?\**”

	Nontraditional (n=9)	Traditional (n=9)	All Students (n=18)
Financial aid	7% (3)	5% (5)	6% (8)
Labs/computer access	11% (5)	1% (1)	4% (6)
Research equipment	4% (2)	1% (1)	2% (3)
Faculty time	2% (1)	1% (1)	1% (2)
Classes	0%	1% (1)	1% (1)
NA	76%	91%	87%

\*Multiple answers possible: total > 100%.

**TABLE C.16** Student Interviews:*“How often do you miss class?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Not very often/occasionally	42% (19)	27% (25)	32% (44)
Never	27% (12)	19% (18)	22% (30)
Multiple times per semester	4% (2)	10% (9)	8% (11)
A lot	4% (2)	8% (7)	7% (9)
Once per semester	4% (2)	8% (7)	7% (9)
Twice per semester	7% (3)	5% (5)	6% (8)
Once a month	4% (2)	7% (6)	6% (8)
Every 2–3 weeks	2% (1)	5% (5)	4% (6)
Depends on the class and level	0%	7% (6)	4% (6)
Once or twice a week	2% (1)	3% (3)	3% (4)
Varies	0%	1% (1)	1% (1)
One out of every 3–4 classes	0%	1% (1)	1% (1)
NA	1% (1)	0%	1% (1)

If you do miss class, what is most likely the reason?

Top overall responses	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Sickness	33% (15)	23% (21)	26% (36)
Commitments to other classes	20% (9)	18% (17)	19% (26)

**Top nontraditional responses**

Sickness	33% (15)	23% (21)	26% (36)
Family responsibilities/emergency	18% (8)	9% (8)	12% (16)
Commitments to other classes	20% (9)	18% (17)	19% (26)
Work or business	16% (7)	2% (1)	6% (8)

**Top traditional responses**

Sickness	33% (15)	23% (21)	26% (36)
Commitments to other classes	20% (9)	18% (17)	19% (26)
Not necessary to attend/boring	7% (3)	15% (14)	12% (17)
Too tired/too sleepy	7% (3)	14% (13)	12% (16)

**Other responses**

Outside commitment/appointments	9% (4)	11% (10)	10% (14)
Job hunting	2% (1)	9% (8)	7% (9)
Commuting problems	7% (3)	2% (2)	4% (5)
Afraid to miss/feel guilty	4% (2)	2% (2)	3% (4)
Needed a break	0%	1% (1)	1% (1)
Religious reasons	0%	1% (1)	1% (1)
Want control	0%	1% (1)	1% (1)
Weather	0%	1% (1)	1% (1)
NA	11% (5)	15% (14)	14% (26)

*(continued)*

**TABLE C.16** Student Interviews: (continued)*“How do you make up the work?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Get information from friends	42% (19)	47% (44)	46% (63)
Email or talk to professor after	27% (12)	26% (24)	26% (36)
Online notes and class information	13% (6)	18% (17)	17% (23)
Make up the work/homework	13% (6)	13% (12)	13% (18)
Read the book	4% (2)	13% (12)	10% (14)
Email or talk to professor before	9% (4)	10% (9)	10% (13)
Don't do anything	0%	5% (5)	4% (5)
Classes missed don't have much work	4% (2)	2% (2)	3% (4)
Pick up at next class	0%	1% (1)	1% (1)
Go to the teaching assistant (TA) after class	2% (1)	0%	1% (1)
NA	22% (10)	17% (16)	19% (26)

**TABLE C.17** Student Interviews:*“Have you taken any night, weekend, or web-based classes?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Attend night classes	53% (24)	39% (36)	44% (60)
Take web/online courses	20% (9)	5% (5)	10% (14)
Attend weekend classes	13% (6)	2% (2)	6% (8)
Take distance learning courses	7% (3)	1% (1)	3% (4)
NA or none	44% (20)	59% (55)	54% (75)

*“What were your experiences?”*

	Nontraditional (n=8)	Traditional (n=21)	All Students (n=29)
More older/mature students	9% (4)	5% (5)	7% (9)
Better time of day	2% (1)	4% (4)	4% (5)
No difference	0%	4% (4)	3% (4)
Classes longer	2% (1)	3% (3)	3% (4)
Classes harder	4% (2)	1% (1)	2% (3)
Like ability to work during day	0%	3% (3)	2% (3)
Classes easier	2% (1)	2% (2)	2% (3)
Different faculty/professor teaching	2% (1)	2% (2)	2% (3)
Higher level of coursework	0%	2% (2)	1% (2)
Less work	0%	2% (2)	1% (2)
Better/faster pace	2% (1)	0%	1% (1)
Experienced students	2% (1)	0%	1% (1)
Classes slow/boring	0%	1% (1)	1% (1)

**TABLE C.18** Alumni Survey Responses

	Nontraditional (n=51)	Traditional (n=123)	All Alumni (n=174)
Attend night classes	88% (45) (n=50)	44% (54) (n=123)	57% (99) (n=173)
Take web/online courses	16% (8) (n=52)	25% (31) (n=123)	23% (39) (n=175)
Attend weekend classes	31% (16) (n=50)	7% (8) (n=123)	14% (24) (n=173)
Take distance-learning courses	10% (5)	6% (7)	7% (12)

**TABLE C.19** Student Interviews:

*“Have you had the opportunity to conduct research with faculty or other students outside the classroom?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	27% (12)	46% (43)	40% (55)
No	58% (26)	48% (43)	50% (69)
No, but would like to	11% (5)	7% (6)	8% (11)
NA	4% (2)	1% (1)	2% (3)

*“Have you or do you plan on doing an internship or co-op before completing your degree?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	36% (16)	67% (62)	57% (78)
No, but would like to	40% (18)	24% (22)	29% (40)
No	16% (7)	8% (7)	10% (14)
Maybe/depends	7% (3)	2% (2)	4% (5)
NA	2% (1)	0%	1% (1)

**TABLE C.20** Student Interviews:

*“How often do you meet with your professors outside of class?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
1 to several times per week	16% (7)	33% (31)	28% (38)
Rarely	20% (9)	18% (17)	19% (26)
Depends on class/if needed	16% (7)	18% (17)	17% (24)
1 to several times per semester	18% (8)	9% (8)	12% (16)
1 to several times per month	11% (5)	8% (7)	9% (12)
Daily	7% (3)	8% (7)	7% (10)
Regularly	4% (2)	3% (3)	4% (5)
Never	7% (3)	1% (1)	3% (4)
Only communicate via email	2% (1)	1% (1)	1% (2)
Only go to TA	0%	1% (1)	1% (1)

*(continued)*

**TABLE C.20** Student Interviews: (continued)

*“Do you have a faculty advisor or mentor whom you can go to and discuss career plans, problems with coursework?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Have advisor	49% (22)	50% (46)	49% (68)
Have mentor	7% (3)	16% (15)	13% (18)
Have more than one advisor	9% (4)	9% (8)	9% (12)
Would like a mentor	4% (2)	7% (6)	6% (8)
No mentor	7% (3)	3% (3)	4% (6)
NA	7% (3)	3% (3)	4% (6)
No advisor	4% (2)	3% (3)	4% (5)
Mentor/advisor same person	7% (3)	2% (2)	4% (5)
Have both an advisor and mentor	4% (2)	3% (3)	4% (5)
Have more than one mentor	2% (1)	3% (3)	3% (4)
Talk to other students	0%	1% (1)	1% (1)

**TABLE C.21** Student Interviews:

*“Are you satisfied with your choice of major?”*

	Nontraditional (n=45)	Traditional (n=92)	All Students (n=137)
Yes	87% (39)	90% (83)	89% (122)
No	9% (4)	3% (3)	5% (7)
Don't know/unsure	0%	2% (2)	2% (2)
NA	4% (2)	4% (4)	4% (6)

*“Would you choose the same major again?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	62% (28)	60% (56)	61% (84)
No	13% (6)	13% (12)	13% (18)
Maybe	0%	5% (5)	4% (5)
Don't know/unsure	2% (1)	1% (2)	1% (2)
NA	22% (10)	20% (19)	21% (29)

*“Are you satisfied with your institution?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	78% (35)	84% (78)	82% (113)
No	13% (6)	9% (8)	10% (14)
Don't know/unsure	4% (2)	1% (1)	2% (3)
NA	4% (2)	7% (6)	6% (8)

(continued)

**TABLE C.21** Student Interviews: (continued)*“Would you choose the same institution again?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	56% (25)	44% (41)	48% (66)
No	24% (11)	28% (26)	27% (37)
Maybe	4% (2)	10% (9)	8% (11)
Don't know/unsure	2% (1)	1% (1)	1% (2)
NA	13% (6)	17% (16)	16% (22)

*“Would you recommend your current institution to a friend with an interest in IT/CS?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	62% (28)	69% (64)	67% (92)
No	13% (6)	3% (3)	7% (9)
Maybe	9% (4)	11% (10)	10% (14)
Don't know/unsure	2% (1)	1% (1)	1% (2)
NA	13% (6)	16% (15)	15% (21)

**TABLE C.22** Alumni Survey Responses

Using the following five-point scale, please indicate how satisfied you are with your IT/CS bachelor's degree program in each of the following areas.

Curriculum (courses offered and course content)	Nontraditional (n=52)	Traditional (n=123)	All Alumni (n=175)
Extremely+very satisfied	65% (34)	68% (84)	68% (118)
Extremely+very+somewhat satisfied	94% (49)	95% (117)	95% (166)
Somewhat+very dissatisfied	6% (3)	5% (6)	5% (8)
NA	0%	0%	0%
<b>Quality of instruction</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	62% (32)	60% (74)	61% (106)
Extremely+very+somewhat satisfied	94% (49)	91% (112)	92% (161)
Somewhat+very dissatisfied	6% (3)	9% (11)	8% (14)
NA	0%	0%	0%
<b>Facilities and equipment</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	60% (31)	62% (76)	61% (107)
Extremely+very+somewhat satisfied	96% (50)	90% (111)	92% (161)
Somewhat+very dissatisfied	4% (2)	10% (12)	8% (14)
NA	0%	0%	0%
<b>Academic advising</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	44% (23)	37% (46)	39% (69)
Extremely+very+somewhat satisfied	73% (38)	69% (85)	70% (123)
Somewhat+very dissatisfied	25% (13)	31% (38)	30% (51)
NA	2% (1)	0%	1% (1)

*(continued)*

**TABLE C.22** Alumni Survey Responses (*continued*)

<b>Career mentoring</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	14% (7)	29% (36)	25% (43)
Extremely+very+somewhat satisfied	40% (21)	64% (79)	57%(100)
Somewhat+very dissatisfied	39% (20)	34% (42)	35% (62)
NA	21% (11)	2% (2)	7% (13)
<b>Faculty/administration support</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	50% (26)	46% (57)	48% (83)
Extremely+very+somewhat satisfied	88% (46)	84% (104)	86% (150)
Somewhat+very dissatisfied	10% (5)	15% (18)	13% (23)
NA	2% (1)	1% (1)	1% (2)
<b>Working relationships with professors</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	60% (31)	48% (59)	51% (90)
Extremely+very+somewhat satisfied	90% (47)	84% (103)	86% (150)
Somewhat+very dissatisfied	6% (3)	16% (20)	13% (23)
NA	4% (2)	0%	1% (2)
<b>Working relationships with other students</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	69% (36)	78% (96)	75% (132)
Extremely+very+somewhat satisfied	98% (51)	96% (118)	97% (169)
Somewhat+very dissatisfied	0%	4% (5)	3% (5)
NA	2% (1)	0%	1%
<b>Exposure to cutting-edge technology</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	35% (18)	47% (58)	43% (76)
Extremely+very+somewhat satisfied	81% (42)	85% (105)	84% (147)
Somewhat+very dissatisfied	19% (10)	15% (18)	16% (28)
NA	0%	0%	0%
<b>Opportunities to participate in co-op/internship programs</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	23% (12)	44% (54)	38% (66)
Extremely+very+somewhat satisfied	44% (23)	70% (87)	63% (110)
Somewhat+very dissatisfied	21% (11)	23% (28)	22% (39)
NA	35% (18)	7% (8)	15% (26)
<b>Opportunities to attend professional meetings</b>	<b>(n=52)</b>	<b>(n=123)</b>	<b>(n=175)</b>
Extremely+very satisfied	27% (14)	30% (37)	29% (51)
Extremely+very+somewhat satisfied	50% (26)	64% (79)	60% (105)
Somewhat+very dissatisfied	17% (9)	20% (24)	19% (33)
NA	33% (17)	16% (20)	21% (37)

**TABLE C.23** Student Interviews:*“Do you receive financial aid?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	73% (33)	62% (58)	66% (91)
No	27% (12)	37% (34)	33% (46)
NA	0%	1% (1)	1% (1)

*“If yes, has it been adequate?”*

	Nontraditional (n=28)	Traditional (n=51)	All Students (n=79)
Yes	48% (23)	42% (37)	44% (60)
No	8% (3)	8% (8)	8% (11)
Somewhat	5% (2)	6% (6)	6% (8)

*“What kind of financial aid have you used?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Financial support from family	18% (8)	60% (55)	46% (63)
Tuition waivers, fellowships, grants, or scholarships	30% (13)	46% (42)	40% (55)
Stafford loan	43% (19)	27% (25)	32% (44)
Pell Grant	46% (20)	19% (17)	27% (37)
Loans from school	11% (5)	12% (11)	12% (16)
Employer assistance or reimbursement	23% (10)	5% (5)	11% (15)
Other aid	2% (1)	15% (14)	11% (15)
Work-study	7% (3)	13% (12)	11% (15)
Teaching or research assistantship	9% (4)	11% (10)	10% (14)
Plus loan	7% (3)	10% (9)	9% (12)
Other federal assistance	7% (3)	5% (5)	6% (8)
Montgomery GI Bill	11% (5)	1% (1)	4% (6)

*“Would you have attended college without receiving any financial aid?”*

	Nontraditional (n=29)	Traditional (n=51)	All Students (n=80)
Yes	55% (16)	53% (27)	31% (43)
No	41% (12)	27% (14)	19% (26)
Yes, but not at present institution	3% (1)	20% (10)	8% (11)

**TABLE C.24** Student Interviews:

*“Do you have plans to continue your education after completing your bachelor’s degree?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Yes	44% (20)	50% (46)	48% (66)
Not now, but in the future	31% (14)	28% (26)	29% (40)
Undecided	20% (9)	18% (17)	19% (26)
No	4% (2)	4% (4)	4% (6)

*“What kind of degree and field?”*

	Nontraditional (n=45)	Traditional (n=93)	All Students (n=138)
Master’s degree in an IT/CS field	56% (25)	51% (47)	52% (72)
Master’s degree in business	20% (9)	17% (16)	18% (25)
Certificate program	11% (5)	12% (11)	12% (16)
PhD	2% (1)	10% (9)	7% (10)
Law degree	7% (3)	7% (6)	7% (9)
Graduate degree in other field	2% (1)	4% (4)	4% (5)
Graduate degree in engineering	2% (1)	3% (3)	3% (4)
Second bachelor’s degree	4% (2)	2% (2)	3% (4)
In joint master’s program now	0%	4% (4)	3% (4)
Medical degree	0%	3% (3)	2% (3)
Other education	0%	1% (1)	1% (1)
NA	13% (6)	9% (8)	10% (14)

**TABLE C.25** Faculty Interviews:

*“In your estimation, what is the defining concept of an IT/CS education?”*

IT Concept	Percentage (n=72)
Problem-solving	29% (21)
Preparation for a career in the field	25% (18)
Understanding the fundamentals of computing	24% (17)
Using technology for decision-making	11% (8)
Preparation for graduate school/lifelong learning	11% (8)
Familiarity with computer systems	11% (8)
Introducing students to current technology	10% (7)
Programming	8% (6)
The articulation and analysis of algorithms	4% (3)
Learn about the social implications of technology	4% (3)
Using technology to effect change	1% (1)
NA	1% (1)

*“What core courses should be included in any IT/CS program?”*

Course	Percentage (n=72)
Programming courses	90% (65)
Data structures	46% (33)
Systems analysis/design/software engineering	44% (32)
Database course	39% (28)
Operating systems	35% (25)
Algorithms	33% (24)
Networking and telecommunications	32% (23)
Computer organization/architecture	31% (22)
Math through calculus	28% (20)
Theory of computer science/computing	15% (11)
Applications included web-based applications	13% (9)
Hardware	10% (7)
Discrete structures	8% (6)
Project management and business course	7% (5)
Statistics and probability	7% (5)
Multimedia technology and computer graphics	6% (4)
Artificial intelligence	4% (3)
Digital logic	4% (3)
Automata	4% (3)
History of computers	3% (2)
Ethics	3% (2)
Compilers	3% (2)
Policy course	1% (1)
Writing/communication	1% (1)
Other	1% (1)
NA	1% (1)

**TABLE C.26** Faculty Interviews:

*“What do you see as the most important prerequisite for students to begin coursework in your program?”*

	Percentage (n=72)
Pre-calculus math courses	65% (47)
Discipline/work ethic	19% (14)
Introduction to computers/basic computer skills	18% (13)
Logic/critical thinking	18% (13)
Inquisitive nature/open mind	15% (11)
Science courses	15% (11)
English/communication skills	14% (10)
Commitment/attitude	13% (9)
Problem-solving ability	10% (7)
Maturity	8% (6)
Time management skills	7% (5)
Calculus	6% (4)
AP courses/college preparatory curriculum	6% (4)
Introduction to programming	4% (3)
Work experience	3% (2)
Enjoy math and science	1% (1)

**TABLE C.27** Faculty Interviews:

*“What are the most necessary skills you hope to impart to your students to ensure their success in an IT/CS career?”*

	Percentage (n=72)
Ability to problem-solve	39% (28)
Ability to learn/ready for lifelong learning	32% (23)
Technological literacy	31% (22)
Ability to think/creative thinking	29% (21)
Communication/interpersonal skills	25% (18)
Teamwork skills	19% (14)
Good math and programming skills	19% (14)
Good attitude toward work and discipline	11% (8)
Basic IT skills	8% (6)
Practical applications of computing	8% (6)
Technological comfort/confidence using technology	7% (5)
Adaptability	7% (5)
Time management/meeting deadlines	6% (4)
Good ethics	3% (2)
Open mind	1% (1)
Self-confidence	1% (1)
NA	3% (2)

**TABLE C.28** Faculty Interviews:

*“Do you perceive any differences between traditional and nontraditional students?”*

	Percentage (n=72)
Nontraditional students are more mature and confident	29% (21)
More serious/focused	28% (20)
More committed/dedicated	21% (15)
More enthusiastic/motivated	19% (14)
More outside commitments/less time to do work	18% (13)
More experience	17% (12)
More prepared	11% (8)
No differences	8% (6)
Better skills and abilities	6% (4)
Nontraditional students have less confidence in the beginning	6% (4)
No/limited experience with nontraditional students	6% (4)
Less prepared	4% (3)
Nontraditional students ask more questions	3% (2)
Nontraditional students never miss class	1% (1)
Give examples in class	1% (1)
Don't know	1% (1)
NA	11% (8)

*“Do you perceive any differences between your male and female students?”*

	Percentage (n=72)
No difference	42% (30)
Women are more disciplined/committed/focused	18% (13)
Men are more confident/women are less confident	17% (12)
Women are better	11% (8)
Women are more likely to drop out	11% (8)
Women don't like programming/computer science	7% (5)
Too few women make comparison	7% (5)
Men are more adventurous and willing to try things with the machines	6% (4)
Women are smarter	3% (2)
Women are more serious	3% (2)
Women are more mature	3% (2)
Women face societal constraints	3% (2)
Women need more positive reinforcement	1% (1)
Women have less work ethic	1% (1)
Women are more prepared	1% (1)
Women face more problems in classes	1% (1)
NA	3% (2)

*(continued)*

**TABLE C.28** Faculty Interviews: *(continued)*

*“Do you perceive any differences between underrepresented minorities versus Caucasian and Asian students?”*

	Percentages (n=72)
No difference	26% (19)
Too small a number for comparison/no experience	13% (9)
Less prepared	11% (8)
Seem to struggle more	6% (4)
Don't know	4% (3)
Have problems fitting in	3% (2)
Need more communication skills	3% (2)
More likely to drop out	3% (2)
Less confident	3% (2)
Have more outside commitments/obligations	3% (2)
Don't have a strong math background	1% (1)
Have problems with teamwork	1% (1)
Lack basic college skills	1% (1)
Given less opportunities	1% (1)
More inquisitive	1% (1)
NA	31% (22)

**TABLE C.29** Faculty Interviews:

*“Does your program have courses that might be considered ‘weed out’ courses?\**”

	Percentage (n=72)
Yes	38% (27)
Yes, but not designed as weed out courses	33% (24)
Help students get through difficult courses/offer tutoring	11% (8)
No	24% (17)
Don’t know	3% (2)
NA	1% (1)

*“Do some students seem to consistently do worse in these courses?\**”

	Percentage (n=72)
No pattern	14% (10)
Nontraditional or older students	10% (7)
Students without programming experience/don’t like programming	6% (4)
Students with poor math preparation/who don’t like math	6% (4)
Students who don’t work hard	6% (4)
Students who do poorly with abstractions	3% (2)
Don’t know	3% (2)
Students with more outside commitments	1% (1)
Weekend students	1% (1)
IT/IS students (as opposed to CS students)	1% (1)
Male students	1% (1)
Transfer students	1% (1)
NA	51% (37)

*“Do students perceive these courses as ‘weed outs’?\**”

	Percentage (n=72)
Yes	47% (34)
No	32% (23)
Don’t know	13% (9)
NA	8% (6)

*“Does this affect students’ perception of their ability to complete the coursework and the program?\**”

	Percentage (n=72)
No	35% (25)
Yes	15% (11)
Don’t know	11% (8)
Makes them prepare more/work harder	10% (7)
Some students drop out	8% (6)
Students will avoid these courses if they can	7% (5)
Builds self-confidence	3% (2)
NA	21% (15)

\*Multiple answers possible: total > 100%.

**TABLE C.30** Faculty Interviews:*“Does the department recruit or is it done only at the university level?”*

	Percentage (n=72)
University only	61% (44)
Department does recruiting	29% (21)
Don't know	3% (2)
NA	7% (5)

*“Are you actively involved in recruiting students?”*

	Percentage (n=72)
Yes	53% (38)
No	29% (21)
Not allowed to recruit	1% (1)
NA	17% (12)

*“What recruiting activities do you undertake?”*

	Percentage (n=72)
Open houses/career fairs/tours	46% (33)
Recruitment at local high schools	32% (23)
Radio/TV/newspaper ads	10% (7)
No recruitment necessary/don't recruit	10% (7)
Special scholarships	8% (6)
Brochures/literature	7% (5)
Informational sessions	7% (5)
Word of mouth	7% (5)
Direct mailings	7% (5)
Website	7% (5)
Recruitment at local community colleges	6% (4)
Meet with prospective students	6% (4)
Recruitment done in introductory courses	3% (2)
Summer programs for minority students	3% (2)
Workshops for high school teachers	1% (1)
Don't know	1% (1)
NA	13% (9)

*“Are there recruitment differences between traditional and nontraditional students?”*

	Percentage (n=72)
No recruitment of nontraditional students	25% (18)
No differences	15% (11)
Don't know	13% (9)
Nontraditional students targeted with special literature	11% (8)
NA	36% (26)

**TABLE C.31** Faculty Interviews:

*“Is there anything that makes your institution attractive to nontraditional undergraduates?”*

	Percentage (n=72)
Courses only available nights and weekends	25% (18)
Location	19% (14)
Nothing	18% (13)
Cost	14% (10)
Name recognition of the school/reputation	13% (9)
Professors available outside of class/supportive faculty	10% (7)
Flexibility of degree completion	8% (6)
Low faculty/student ratio	8% (6)
Culture	7% (5)
Nontraditional students put off from coming here	7% (5)
Presence of other nontraditional students	7% (5)
Program quality	6% (4)
Blue-collar atmosphere	4% (3)
Don't need to spend a lot of time on campus	4% (3)
Distance learning programs	4% (3)
Accept credits for coursework completed elsewhere	4% (3)
Mentoring program	3% (2)
Tutorial services	3% (2)
Courses taught by practitioners	3% (2)
Presence of women and minority students	3% (2)
Diversity of programs offered	3% (2)
Special tuition payment programs/scholarships	3% (2)
Internships and other outside experiences offered	1% (1)
Diverse faculty	1% (1)
Open admissions	1% (1)
NA	3% (2)

**TABLE C.32** Faculty Interviews:

*“How do the schedules of traditional versus nontraditional students vary both on a daily basis and throughout the course of their studies?”*

	Percentage (n=72)
Take classes nights and weekends	25% (18)
No differences/no special treatment	22% (16)
Take fewer classes/credits	19% (14)
More outside time commitments	18% (13)
Scheduling a problem for nontraditional students	17% (12)
Longer time to degree	11% (8)
More periods of intense study	6% (4)
Nontraditional students have separate program	6% (4)
Nontraditional students choose less difficult classes	4% (3)
Nontraditional students take more web-based or distance-learning classes	4% (3)
Don't know	3% (2)
Nontraditional students sometimes take courses at other institutions	1% (1)
NA	15% (11)

**TABLE C.33** Faculty Interviews:

*“Do you perceive any friction between traditional and nontraditional students?”*

Friction concerning:	Percentage (n=72)
No perceived friction	61% (44)
Access to campus resources	10% (7)
Some communication barriers	8% (6)
Access to professors	6% (4)
Availability of courses	6% (4)
Older students irritated with younger students	4% (3)
Younger students frustrated with older students	4% (3)
Access to financial aid	3% (2)
Problem with team projects	3% (2)

**TABLE C.34** Faculty Interviews:

*“Is there a significant difference between day and evening/weekend classes offered for undergraduates in terms of curriculum, instruction, and/or labs?”*

What are those differences?	Percentage (n=72)
No difference in curriculum	23% (17)
No difference at all	22% (16)
Students are different	22% (16)
Labs are difficult	17% (12)
Taught by part-time faculty/adjuncts	15% (11)
Classes are longer and meet once a week	15% (11)
Don't know	15% (11)
Less meeting time	14% (10)
No freshman-level courses offered at night	11% (8)
Less work given in evening classes	11% (8)
Only labs offered in the evening	8% (6)
Only IT classes offered at night/no CS	7% (5)
Not offered	7% (5)
Professors have later office hours	6% (4)
Coursework geared toward real-world experiences	4% (3)
NA	11% (8)

**TABLE C.35** Faculty Interviews:

*“How important are internships or external work programs for traditional students?”*

	Percentage (n=72)
Extremely/very important	61% (44)
No real impact/not very important	15% (11)
Most students are already employed	15% (11)
Helps in job placement	7% (5)
Don't know	4% (3)
Helps with senior projects	3% (2)
Required by the program	3% (2)
Gives them a leg up/advantage	1% (1)
Fairly important/important	1% (1)
NA	21% (15)

*“How important are internships or external work programs for nontraditional students?”*

	Percentage (n=72)
Important	39% (28)
Not as important	11% (8)
Most are already working	8% (6)
Important if they are changing fields	7% (5)
More important for nontraditional students than traditional students	4% (3)
NA	25% (18)

*“What is the most important impact that co-op or internship programs have on students?”*

	Percentage (n=72)
Experience/exposure to real work environment	57% (41)
See practical applications of IT	28% (20)
Better job opportunities	17% (12)
Increase self-confidence/maturity	14% (10)
Gain realistic expectations	13% (9)
Enhanced sense of purpose/enthusiasm	10% (7)
Limits their time and energy/takes away from academics	7% (5)
Skill acquisition	6% (4)
Networking opportunities	6% (4)
Work ethic and sense of discipline	6% (4)
Chance to earn money	4% (3)
Learning the project life-cycle	4% (3)
Don't know	1% (1)
NA	10% (7)

*(continued)*

**TABLE C.35** Faculty Interviews (*continued*):*“Do you have co-op programs?”*

	Percentage (n=72)
Yes	49% (35)
No	33% (24)
Don't know/unsure	11% (8)
NA	7% (5)

*“When do students usually begin doing co-ops?”*

	Percentage
Junior year	18% (13)
After sophomore year	13% (9)
Don't know/not sure	3% (2)
Anytime	1% (1)
Only for graduate students	1% (1)
After freshman year	1% (1)
During their senior year	1% (1)
NA	61% (44)

**TABLE C.36** Faculty Interviews:*“What kind of career placement center does your institution have?”*

	Percentage (n=72)
Career office	68% (49)
On-campus recruitment	29% (21)
Career fairs	22% (16)
Help with resumes and interview skills	15% (11)
Don't know	11% (8)
Department-level career coordinator	10% (7)
Career center not helpful	7% (5)
Academic advisors	6% (4)
Course offered in career-building skills	4% (3)
No career center/activities	4% (3)
Job/internship postings	3% (2)
NA	4% (3)

**TABLE C.37** Faculty Interviews*“Does your institution monitor the career outcomes of your students?”*

	Percentage (n=72)
Some attempts to track	46% (33)
No tracking	17% (12)
Don't know	14% (10)
Alumni surveys	7% (5)
Exit surveys	6% (4)
Maintain email list	3% (2)
Maintain roster/database of all CS graduates	1% (1)
Alumni website	1% (1)
NA	14% (10)

**TABLE C.38** Faculty Interviews:*“Does your institution have direct interaction or contacts with employers to ascertain their workforce needs?”*

	Percentage (n=72)
Business advisory council	39% (28)
Unofficial/informal interaction	36% (26)
Faculty contacts	15% (11)
Career office has contacts	11% (8)
Through internships/co-ops	7% (5)
No official interaction	6% (4)
Currently planning future advisory group	4% (3)
Don't know	4% (3)
Through adjuncts	1% (1)

*“Does your department make course/curriculum decisions or changes based on these interactions?”*

	Percentage (n=72)
Yes, made some curriculum/course changes	38% (27)
Yes, made significant curriculum/course changes	14% (10)
Minimal changes	10% (7)
No changes	10% (7)
Awareness of employer needs only	3% (2)
Making changes based on this contact is bad idea	1% (1)
Don't know	1% (1)
NA	24% (17)

*“Does this interaction help with student placement in internships/co-ops/jobs?”*

	Percentage (n=72)
Yes	76% (55)
No	4% (3)
Don't know/unsure	4% (3)
NA	15% (11)

**TABLE C.39** Faculty Interviews:

*“Given our definition, are there other characteristics that describe nontraditional students that you can think of?”*

	Percentage (n=72)
Have families/children	26% (19)
Job responsibilities/working full-time	15% (11)
Have outside commitments	14% (10)
Nothing to add to definition	14% (10)
Career changers/second degree seekers	11% (8)
Uncomfortable in academia/new to academic culture/different approach	8% (6)
Live farther away/longer commute	7% (5)
Attending school part-time or interrupt education	4% (3)
Difficulty getting to class/getting work done	3% (2)
Need to gain skills	3% (2)
Don't know	3% (2)
NA	24% (17)

**TABLE C.40** Faculty Interviews:

*“What do you see as the most pressing needs of nontraditional students?”*

	Percentage (n=72)
More time/time management	29% (21)
More resources/financial support	18% (13)
More course flexibility	14% (10)
More support systems	10% (7)
Bridge programs/tutoring/support services	10% (7)
Child care	7% (5)
Sense of belonging	4% (3)
Access	3% (2)
Don't know	3% (2)
Same as traditional students	1% (1)
NA	1% (1)