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UNIFORM STATISTICAL INFORMATION QUESTIONNAIRE: 1980

A SUPPLEMENTARY REPORT

**Prepared by Park E. Leathers, James A. Sullivan
and Jerome Bernstein**

AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS

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AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS

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ACKNOWLEDGEMENTS

This study was made possible by the efforts of the participating state boards of accountancy, their employees and those 1980 CPA Examination candidates who took the time to complete the Uniform Statistical Information Questionnaire. The project was completed under the general direction of Mitchell D. Rothkopf, American Institute of Certified Public Accountants, Director, Examinations Division. Larry Trapani, Systems and Security Coordinator, Examinations Division, coordinated the data-gathering and provided technical advice to the authors. Computer services were provided by the Institute's Examinations Division and the Bowling Green State University Computer Center.

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HIGHLIGHTS

This report summarizes data obtained from candidates sitting for the May 1980 and November 1980 Uniform CPA Examinations. These data were last gathered in 1975.

The principal findings of the study are as follows:

1. The candidate population continued to rise rapidly in the past five years but at a somewhat lower rate than experienced from 1970 to 1975.
2. Approximately 15% of first-time May 1980 examination candidates passed all four sections of the examination; 28% earned partial credit, and 57% obtained no credit. Among repeat candidates, 25% passed all *remaining* sections, 24% earned some credit, and 51% received no credit. Of May 1980 candidates completing the examination, 25% were first-timers, 71% were repeat candidates with previous conditional credit, and 4% were repeat candidates with no previous credit. Considering all May 1980 candidates as one group, 9.5% passed all four sections at that sitting, 11.5% passed all remaining sections, 26% earned partial credit, and 53% earned no credit.
3. Repeat candidates were more successful than first-timers in auditing but were less successful than first-timers in accounting theory and accounting practice. Repeat candidates were more likely to earn credit because they were less impacted by conditioning requirements.
4. The long-term trend toward early sitting for the CPA Examination continued in 1980. Approximately three-quarters of first-time candidates were attending school or were separated from school for less than one year.
5. The increasing trend toward more advanced degrees did not continue in 1980. Of May first-time candidates, only 13.5% had advanced degrees, compared to 13.1% in 1975 and 8.6% in 1970. Candidates with graduate training continue to achieve above-average success on the examination.
6. Among first-time candidates with bachelor's degrees, 74% attended a college of business, 25% a liberal arts or non-business school, 18% a community (or junior) college, and only 5% a school of professional accounting. Corresponding figures for holders of advanced degrees were colleges of business 79%, liberal arts or non-business colleges 39%, community colleges 11%, and schools of professional accounting 11%. The primary school attended was accredited by the American Association of Collegiate Schools of Business for 55% of the holders of bachelor's degrees and 62% of the advanced-degree holders.
7. Candidates had slightly more academic training in accounting; 54% reported over 30 semester hours compared to 52% in 1975. Of candidates with both undergraduate and graduate training, 73% indicated more than 30 semester hours. Only 3% of candidates had 18 semester hours or less.
8. The typical first-time candidate had two introductory accounting courses, two or three financial accounting courses, one or two courses each in tax and cost, one in auditing, and one to three accounting electives. He or she also had two courses each in statistics and business law and one computer course; 75% of the candidates had one or more precalculus courses and 74% had calculus or another higher mathematics course.
9. Additional accounting courses improved examination performance—up to 42 hours, where diminishing returns set in. Similar relationships prevailed between pertinent individual courses and examination subjects.
10. Candidates with liberal arts or non-business backgrounds performed better on the examination than accounting and business majors. This was attributable to higher scholastic aptitude, as measured by SAT scores.

11. The majority of first-time candidates had no work experience or less than one year's experience. Twice as many first-time candidates had a year's experience in private accounting as had a year's experience in public accounting. But the majority of candidates completing the examination appear to be employed in public accounting.
12. Grade point averages continued to rise, particularly at the undergraduate level. Grades continued to be highly associated with examination performance. First-time candidates with grade point averages of 3.5 or higher were five times as likely to pass all sections of the examination as candidates with averages below 3.0.
13. Scores on academic aptitude and achievement tests were correlated significantly with CPA examination performance. Consistent with national trends, there was a slight decline among CPA candidates in the SAT scores reported for the 1980 study.
14. Over half of the candidates had some type of CPA coaching course. These courses continued to contribute to examination success. Additional hours of independent study—a category measured for the first-time in 1980—also contributed to examination success.
15. The 1980 candidates as a group chose accounting as a career earlier than the 1975 candidates. There was also some evidence that competent students were attracted earlier to the profession. Candidates continued to rank compensation as the most important factor in choosing a career.
16. Performance was highly correlated among examination sections. For those first-time candidates who passed auditing, the probability of earning full credit for all four examination sections was 55%, for accounting theory 38%, for business law 49%, and for accounting practice 45%.
17. The qualifications of candidates repeating the examination were somewhat lower than for first-time candidates, in terms of grade point averages and SAT scores. However, repeat candidates had more work experience, graduate training, semester hours of accounting, classroom hours of CPA coaching, and hours of independent study than first-time candidates had.
18. The five factors most associated with CPA examination success were graduate training, grade point averages, scores on aptitude and accounting achievement tests, participation in CPA coaching courses, and hours of independent study.

I. NATURE AND SCOPE OF STUDY

The USIQ Project

The Uniform Statistical Information Questionnaire is a joint undertaking of the state boards of accountancy and the American Institute of Certified Public Accountants (AICPA). It is conducted with the cooperation of the National Association of State Boards of Accountancy.

The primary objective of the USIQ study is to provide data to those preparing, administering, and grading the Uniform CPA Examination concerning the nature of the candidate body and any changes that have occurred since the last study. Data also are useful to regulators and legislators in determining the appropriateness of education, experience, and conditioning requirements, to prospective candidates evaluating their chances for success, and to educators and the profession-at-large in monitoring and seeking to improve the quality of prospective entrants.

The data for this project were supplied by candidates sitting for the May and November 1980 CPA Examinations. The last study was conducted for the May and November 1975 Examinations. Copies of the 1980 Uniform Statistical Information Questionnaire and instructions for its use are reproduced in the appendix.

The 1980 questionnaire included substantially all of the items for which data were collected in 1975. In addition, data were collected for the first time in 1980 in the following areas:

1. Type of higher educational institution attended, e.g., college of business, school of professional accounting, liberal arts college.
2. Name of college or university where candidate obtained major portion of accounting education.
3. Semester hours in selected college accounting courses, e.g., financial, cost.
4. Nature of work experience, e.g., auditing, tax.
5. Nature of CPA coaching course by examination section and classroom hours devoted to course.
6. Hours of independent study per examination section.

Data were collected for 68 different variables in 1980.

The candidate data have been arrayed against scores on individual examination sections and candidate status after examination in four separate volumes—May 1980 First-Time Candidates, May 1980 All Candidates, November 1980 First-Time Candidates, and November 1980 All Candidates. Each volume for First-Time Candidates consists of 213 tables; the All-Candidate volumes have 223 tables.

The four volumes of compiled data are being sent to state boards and other concerned parties. In addition, each state board receives four corresponding volumes summarizing data from that state or jurisdiction.

Purpose of Supplementary Report

This supplementary report serves as an interpretive summary for state boards (and other concerned parties) in using their jurisdictional volumes of data. It highlights the pertinent findings for those users and provides historical perspective by comparisons with prior studies.¹

¹Data on CPA Examination candidates were collected for five consecutive examinations from November 1964 to November 1966, in May and November 1970, and again in May and November 1975. The findings of previous surveys have been published in supplementary reports (such as this one) authored by Doyle Z. Williams (in 1968), Howard P. Sanders (in 1971) and by Park E. Leathers and James A. Sullivan (in 1978). Dr. Williams also presented "A Profile of CPA Candidates" in the January 1969 issue of *The Accounting Review* (pp. 153-164). Dr. Sanders summarized the 1970 findings in the December 1972 issue of *The Journal of Accountancy* (pp. 85-88). Based upon the 1970 data, Dr. Leathers prepared "Relationship of Test Scores to CPA Examination Performance," which appeared in the September 1972 issue of the *Journal of Accountancy* (pp.101-102).

This supplementary report is also intended as a general summary of the study for use by interested individuals who do not have access to the detailed volumes. Principal findings have been included here so that the report is complete in itself.

Study Methodology

Candidates were furnished questionnaires and instructions by individual state boards. State board officials forwarded completed questionnaires to the AICPA where the data were transferred to magnetic tape and then merged with candidate scores. Rather than requiring state boards to manually determine and affix "candidate status after examination," (as was done in the past) status was computed using a series of programs reflecting the individual state's conditioning requirements. The researchers also subjected the data to limited edit checks. The purpose of these was to identify contradictory or illogical reporting. Erroneous data were corrected where feasible, or the candidate was dropped from the analysis.

In computing status four separate examination outcomes were recognized, as follows:

1. Candidate did not receive conditional credit for any section at this examination.
2. Candidate earned conditional credit as a result of this sitting (or, having previously earned conditional credit, passed an additional one or more sections).
3. Candidate passed all sections for which eligible but had previously failed one or more sections.
4. Candidate passed entire examination at first sitting.

For purposes of this report data are presented in terms of No Credit (earned at this sitting), Partial Credit (earned at this sitting) and Full Credit (four parts for first-timers or the one to four remaining parts for repeat candidates).

Note that a candidate may earn a passing score for a section but still not receive any credit. For example, the candidate's jurisdiction may have conditioning requirements where two sections must be passed in order to obtain credit or a minimum score attained on sections failed.

As noted earlier, principal tables have been produced here, sometimes in condensed form, to provide a complete report. Besides showing results and associations in tabular form, the authors have computed two more compact statistics. The first of these (unique to this report) is the "success ratio" applicable to a particular examination section. This ratio indicates the degree of success for a particular group as compared to that experienced by the general candidate body. For example, a success ratio of 1.50 indicates that a candidate with a particular characteristic is 50% more likely to pass an examination section than the "average" candidate.

In addition, correlation coefficients have been computed to show relationships between characteristics and candidate scores. A positive correlation coefficient indicates that the characteristic contributes to examination success. A negative coefficient indicates that the characteristic is associated with poorer performance. Coefficients may range between +1, perfect direct association, and -1, perfect inverse association.

In discussing the correlation coefficients, it is indicated whether they are statistically significant at the 1% level. If a correlation is statistically significant at the 1% level, this indicates that there is at most a 1% chance of asserting that a relationship exists when in fact it does not. While greater statistical assurance is associated with statistically significant correlation coefficients, this does not necessarily imply that the relationship is an important one. In a large sample such as this one, statistical significance often can be achieved with relatively low correlations. Statistical significance indicates the likelihood of a relationship existing. Whether the relationship is important depends upon the size of the correlation coefficient and the reader's judgement as to what constitutes importance in the circumstances.

Generally this report highlights the performance of "first-time" candidates and "repeat" candidates as separate groups. The All-Candidates data furnished to state boards includes both these groups. Most of the data cited herein are for May 1980 candidates, but these generally are consistent with November. A comparison of May and November candidates is provided in Section IX of this report.

Data Limitations

Researchers relying on survey techniques are vulnerable to two limitations:

1. Lack of response to their survey instruments.
2. Inadequate or inaccurate response.

The first of these limitations, fortunately, was not a problem in this USIQ study. A large majority of candidates responded, as detailed in the next section.

To minimize inadequate or inaccurate response, it was vital to present clear and unambiguous data requests and instructions to the candidates. The USIQ has evolved over time, and efforts were made in 1980 to correct problems from the past and forestall anticipated misunderstandings in completing the form. Under any circumstances, of course, there will be some candidates who disregard instructions or provide erroneous information. The latter may arise because a candidate has forgotten the item, e.g., SAT score, or remembers it incorrectly. And in some cases, candidates may intentionally misreport because they suspect that the data will somehow bias their examination scores, even though attempts were made to reassure them in this regard.

In general, this study accepted the data as furnished by the candidates unless the data were clearly incorrect or two items conflicted. For example, if a candidate claimed to have conditional credit for a section but sat for that section, his/her reporting was changed. However, the basic premise in compiling these data was that the vast majority of candidates are candid and knowledgeable. The instances where this did not prevail did not significantly affect conclusions.

In general, the data in the four volumes of tables, as well as this report, are presented in terms of two variables. Two-variable analysis—regardless of whether it is tabular or in the form of “success ratios” or simple correlation coefficients—has a flaw. A strong degree of association may occur when two variables are each associated with a third variable, and thus the observed association may not indicate causation between the two variables.

To combat this circumstance, the reader must first use common sense—ask whether the observed relationship is a logical one and what may have caused it. This process may be facilitated by multivariate analytical techniques, two of which have been utilized in this study:

1. Three-way tables permit the observer to examine the pattern of a characteristic as it affects pertinent subsets of the population. For example, in the four data volumes furnished to state boards the number of semester hours of accounting, as they relate to examination performance, is arrayed individually for candidates with undergraduate training only, graduate training only, and training at both levels. This approach recognizes that the training available at the two levels may differ.

2. “Partial” (as opposed to “simple”) correlation coefficients measure the degree of association between two or more variables after the association with one or more other variables has been removed. For example, the researchers may want to study the effects of a calculus background on examination performance and may suspect that scholastically strong students are more likely to take calculus. With the partial correlation technique scholastic ability might be neutralized by removing the influence of SAT scores from both variables. The coefficient computed after this has been done is a measure of the relationship between examination performance and calculus other than that attributable to their mutual association with SAT scores.

The information conveyed by a partial correlation coefficient where association with one other variable has been removed is similar to that contained in a three-way table. If associations with two other variables were controlled, a four-way table would be necessary to provide similar information, etc. The major advantage of the correlation coefficient is the compactness with which it conveys information.

Project Participation

Participation in the 1980 project was excellent. All 54 jurisdictions using the Uniform CPA Examination gathered data; this increased from 46 jurisdictions in 1975 and 49 in 1970. The percentage of candidates for whom usable questionnaires were received also increased; it was 79% in May 1980, as compared to 66% in 1975 and 71% in 1970. As in prior years, overall November participation declined, (58% in 1980). However, it was still comparable to that experienced in November 1975 (59%) or November 1970 (54%).

II. COMPOSITION OF CANDIDATE BODY

Number of Candidates

There was phenomenal growth in the number of candidates sitting for the CPA Examination in the 1970's. Table I shows that total candidates for the May sitting, which had increased 102% during the 1960's, rose another 170% from 1970 to 1980. This of course has placed an immense burden on the professionals, administrators, and staff responsible for the examination. However, it is perhaps noteworthy that the rate of growth slowed in the latter half of the decade—from 81% for 1970-75 to 49% from 1975-80—even though the absolute increase was greater. The 58% growth in total candidates for the November sitting from 1970 to 1975 was substantially lower than that observed for May, but the 50% increase from 1975 to 1980 was consistent. Presently the relationship between the number of candidates sitting in May and November appears to have stabilized.

**TABLE 1
NUMBER OF CANDIDATES SITTING
FOR UNIFORM CPA EXAMINATION
1950 TO 1980**

	<u>May</u>		<u>November</u>	
	<u>Number</u>	<u>Index</u>	<u>Number</u>	<u>Index</u>
1950	5,100	100	6,300	100
1955	8,300	163	9,700	154
1960	10,600	208	13,100	208
1965	15,200	298	17,200	273
1970	21,400	420	26,700	424
1975	38,700	759	42,100	668
1980	57,800	1133	63,200	1003

Almost all first-time candidates sit for all four sections; this is mandated in many jurisdictions by state requirements. Repeat candidates also tend to sit for all remaining parts. The percentages of repeat candidates sitting for various sections in May 1980 were:

Accounting practice	63%
Accounting theory	64%
Auditing	70%
Business law	68%

Repeat participation varies inversely with the difficulty of the sections. Fewer candidates, particularly first-timers, have passed auditing and business law in recent years.

First-Time and Repeat Candidates

The ratio of first-time candidates to the total candidate body declined slightly in 1980. It had been about 40% in both May 1975 and May 1970 (slightly lower in November) but was only 36% in May 1980 and 32% in November 1980. This may suggest more persistence on the part of repeat candidates.

Table 2 compares the maximum number of sittings for any examination section for May 1980, May 1975, and May 1970. Depending upon one's point of view, this table shows an increase in the time taken to complete the examination and/or more persistence on the part of unsuccessful candidates.

TABLE 2
MAXIMUM NUMBER OF SITTINGS
FOR ANY MAY EXAMINATION SECTION

	<u>1970</u>	<u>1975</u>	<u>1980</u>
First sitting	42%	40%	36%
One previous sitting	22	23	24
Two previous sittings	14	15	15
Three previous sittings	9	10	10
Four or more previous sittings	13	12	15
All examination candidates	<u>100%</u>	<u>100%</u>	<u>100%</u>

Table 2 was formulated in terms of the maximum number of sittings for *any* examination section. Table 3, in contrast, examines number of sittings by section: Is this the candidate's first sitting for that section? If not, how many previous sittings has he or she had? Table 3 shows remarkable consistency among the four examination sections. A slightly larger percentage of candidates failed auditing on the first attempt, but the auditing candidates tended to catch up (in terms of cumulative passes) on the second sitting.

TABLE 3
MAXIMUM NUMBER OF SITTINGS FOR
INDIVIDUAL MAY 1980 EXAMINATION SECTIONS

	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
First sitting	46%	46%	44%	45%
One previous sitting	23	22	24	23
Two previous sittings	13	13	14	13
Three previous sittings	8	8	8	9
Four previous sittings	4	4	4	4
Five or more previous sittings	6	7	6	6
All candidates for section	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

The relative performance of first-time and repeat candidates is discussed in the next section. Their characteristics are compared throughout this report, particularly in Section IX.

Relative Performance of First-Time and Repeat Candidates

Approximately 15% of first-time May 1980 CPA Examination candidates passed all four sections of the examination; 28% earned partial credit, and 57% obtained no conditional credit at all. These percentages are almost the same as those observed in May 1975 except that the percentage passing all four parts was slightly higher (16%) in 1975.

Among May 1980 repeat candidates, 25% passed all remaining parts, 24% earned some credit, and 51% received no credit. The corresponding figures for May 1975 were 25%, 22%, and 53% respectively, thus representing little change.

The repeat candidates, of course, had an advantage in that they might have earned some credit on previous examinations. A more pertinent comparison, therefore, is based upon sections previously conditioned. Table 4 shows the percentage of total candidates in relation to the number of sittings and conditional credit earned; the size of the "one section" group is small because so many jurisdictions require the candidate to pass at least two sections if credit is to be earned. Table 4 clearly shows that repeat candidates with two or three sections previously conditioned had a much better chance to earn credit than those with none or one. It is also noteworthy that 42% of all candidates (and nearly two-thirds of repeat candidates) were persons who previously took the examination and received no credit.

**TABLE 4
RELATIONSHIP OF PREVIOUS CONDITIONAL CREDIT
TO CREDIT EARNED ON MAY 1980 EXAMINATION**

	<i>Percentage of Candidates</i>	<i>Percentage of Candidates Earning</i>		
		<i>No Credit</i>	<i>Partial Credit</i>	<i>All Credit Needed</i>
No previous credit—				
First-time candidates	36%	57%	28%	15%
Repeat candidates	30	71	26	3
Previous conditional credit for repeat candidates—				
One section	5	50	44	6
Two sections	15	32	36	32
Three sections	14	29	0	71
All candidates	<u>100%</u>	53	26	21

Considering all candidates as one group, 9.5% earned credit for all four sections. As Table 4 shows, 26% of all candidates earned partial credit and 53% no credit at all. The other 11.5% were candidates completing the examination who previously had passed one or more sections. Stated another way, 25% of all successful candidates (ones completing the examination) were first-timers; 71% had previously earned partial credit, and only 4% were repeat candidates with no conditional credit.

Another important factor is the relative success in different examination sections based upon the number of sittings for that section. Table 5 uses "success ratios" to make this comparison. As previously noted, the "success ratio" is defined for this study as the passing rate (scores of 75 or better) for a particular group on a section divided by the overall passing rate for all candidates (both first-time and repeaters) sitting for that section. A success ratio greater than 1 is associated with an above-average chance for success on that section.

With the exception of auditing, first-time candidates performed better than the average candidate in all sections. This was particularly true for accounting theory, where academic preparation presumably was more beneficial. After the first sitting, performance declined (except in auditing) but rose again presumably as candidates completed other sections and could concentrate on fewer remaining sections. Diminishing results occurred after the fifth sitting.

TABLE 5
RELATIONSHIP OF SITTINGS BY SECTION
TO EXAMINATION SUCCESS ON THAT SECTION
FOR MAY 1980 CANDIDATES

	<i>Success Ratios</i>			
	<i>Accounting Practice</i>	<i>Accounting Theory</i>	<i>Auditing</i>	<i>Business Law</i>
First sitting	1.07	1.16	.95	1.01
One previous sitting	.87	.88	1.03	.97
Two previous sittings	.94	.87	1.06	.96
Three previous sittings	.97	.91	1.11	1.04
Four previous sittings	1.12	.96	1.09	1.14
Five or more previous sittings	1.06	.73	.87	1.06
All repeat candidates	.94	.87	1.04	1.00

Years Out of College

In general, candidates are sitting much earlier for the CPA Examination than they did in previous decades. This long-term trend continued in 1980, as shown in Table 6. Although the overall time lapse decreased, however, the percentage of first-time May candidates sitting for the examination while attending college did not. There was an increase in first-time November candidates sitting while attending school, particularly from 1970 to 1975. On an overall basis, approximately three-quarters of first-time 1980 candidates were attending school or had been separated less than one year.

TABLE 6
HISTORICAL COMPARISON OF
COLLEGE SEPARATION STATUS
FOR FIRST-TIME CANDIDATES

	<i>May Examination</i>			<i>November Examination</i>		
	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>1970</i>	<i>1975</i>	<i>1980</i>
Attending college	37%	36%	35%	8%	16%	18%
Separated from school—						
Under one year	31	33	40	44	48	54
One to two years	12	15	11	22	18	13
Three to five years	13	9	8	18	11	8
Six or more years	7	7	6	8	7	7
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

Repeat candidates, of course, tended to be farther from their academic preparation. Only 9.6% of May candidates were attending school and 72.3% had been out over a year. Taking all candidates (both first-time and repeaters) as one group, 81.4% of May candidates and 87.5% of November candidates indicated they were not attending college at the time the examination was administered. These percentages declined slightly from prior years. In 1975, 82.6% of all May candidates and 90.3% of all November candidates were separated from college. Corresponding figures for 1970 were 83.1% for May and 94.4% for November.

Tables 7 and 8 summarize the relationship of college separation status for first-time candidates to success on the examination. The relationship (which was consistent with that noted in 1975) was an unusual one. Candidates still attending school did better than those out of school less than one year. During the first five years after leaving school, performance was relatively poor. After six years candidate performance improved again.

There are two hypotheses that would support better performance of candidates while attending school (or shortly after leaving). First is the immediacy of academic work; the CPA Examination primarily tests academic knowledge rather than that obtained from work experience. Second is an expectation that more capable and motivated individuals will seek to take the examination as soon as possible. Both of these factors undoubtedly are important, but the relatively strong performance of these candidates in theory and practice (the two sections emphasized in the typical collegiate curriculum), as indicated by the success ratios in Table 8, supports the immediacy of knowledge hypothesis.

In attempting to assess factors that may contribute to success or failure on the CPA Examination, it is plausible that candidates in the early stages of their professional careers may be too busy (and perhaps lack motivation) to study for the examination. However, performance seemed to improve after three years. Hypothetically, candidates who are less capable or lack motivation have adjusted their aspirations by this point in their careers and no longer become part of the examination population. Alternatively, at this stage of their careers candidates may have become more motivated to pass the examination. Of these hypotheses the former is more persuasive.

TABLE 7
RELATIONSHIP OF COLLEGE SEPARATION STATUS
TO CREDIT EARNED BY
FIRST-TIME MAY 1980 CANDIDATES

	<i>Percentage of Candidates Earning</i>		
	<i>No Credit</i>	<i>Partial Credit</i>	<i>Full Credit</i>
Attending college	51%	31%	18%
Separated from school—			
Under one year	57	28	15
One to two years	71	21	8
Three to five years	64	27	9
Six or more years	54	30	16

TABLE 8
RELATIONSHIP OF COLLEGE SEPARATION STATUS
TO SUCCESS ON INDIVIDUAL EXAMINATION SECTIONS
FOR FIRST-TIME MAY 1980 CANDIDATES

	<i>Success Ratios</i>			
	<i>Accounting Practice</i>	<i>Accounting Theory</i>	<i>Auditing</i>	<i>Business Law</i>
Attending college	1.27	1.35	1.03	1.16
Separated from school—				
Under one year	1.07	1.17	.97	.96
One to two years	.64	.77	.70	.68
Three to five years	.86	.94	.82	.86
Six or more years	1.11	1.18	1.03	1.13

III. EDUCATIONAL BACKGROUND

Level of Education

In 1946 less than half of CPA Examination candidates held bachelor's degrees. By May 1975 this percentage had risen to 98.5% for first-time candidates and 96.9% for repeat candidates. And the percentage of all candidates with advanced degrees reached 13% in 1975 (from 9% in 1970).

Surprisingly, the strong trend toward more education did not continue in 1980. There still were 300 first-time May candidates who did not have bachelor's degrees (and did not expect to achieve them within 60 days of taking the examination). More notable was that the increasing trend toward more advanced degrees did not continue in 1980. A complete comparison for the last three USIQ studies follows:

	<i>May Sitting</i>			<i>November Sitting</i>		
	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>1970</i>	<i>1975</i>	<i>1980</i>
First-time candidates—						
Less than bachelor's	3.2%	1.5%	1.8%	3.4%	1.6%	1.7%
Bachelor's degree	88.2	85.4	84.7	86.6	82.8	84.6
Advanced degree	8.6	13.1	13.5	10.0	15.6	13.7
Repeat candidates—						
Less than bachelor's	7.6%	3.1%	1.3%	6.4%	3.2%	1.4%
Bachelor's degree	82.3	83.8	83.7	84.6	84.7	83.9
Advanced degree	10.1	13.1	15.0	9.0	12.1	14.7

For those candidates with an advanced degree, the MBA with an accounting major was the most popular (38%), followed by other MBA degrees (30%), master's degrees in accounting (20%), non-business master's degrees (6%), law degrees (5%), and doctoral degrees including the DBA (1%). Among first-time May 1980 candidates only, somewhat higher percentages had master's in accounting and non-business master's, and fewer candidates had non-accounting MBAs and law degrees. There was a decline from May 1975 in the percentage of candidates with law degrees (7% of all candidates at that time); otherwise there were no unusual changes from 1975.

Higher education continued to contribute to examination success. This is demonstrated in Table 9, which reports overall performance for first-time candidates, and Table 10, which presents success ratios for all candidates (both first-time and repeat).

TABLE 9
RELATIONSHIP OF LEVEL OF EDUCATION
TO CREDIT EARNED BY
FIRST-TIME MAY 1980 CANDIDATES

	<i>Percentage of Candidates Earning</i>		
	<i>No Credit</i>	<i>Partial Credit</i>	<i>Full Credit</i>
No bachelor's degree	62%	24%	14%
Bachelor's degree only	59	27	14
Advanced degree—			
Master's in accounting	39	36	25
MBA accounting major	42	35	23
Other MBAs	47	34	19
Non-business master's	39	30	31
Law degree	38	43	19
Ph. D. or DBA	23	37	40

An interesting aspect of Table 10 is the relatively strong performance by candidates who held a master's degree in accounting on the accounting practice and accounting theory sections of the examination, areas where such a program would be expected to affect performance. With the exception of the above-average performance by those who have earned non-business master's degrees, the performances of other degree-holding groups were as expected. The continued success of non-business degree candidates (regardless of college degree or major) may be attributed to the superior academic aptitude of these candidates and their ability to obtain a considerable amount of formal accounting training during the course of their programs. This observation is developed further below.

TABLE 10
RELATIONSHIP OF LEVEL OF EDUCATION
TO SUCCESS ON INDIVIDUAL EXAMINATION SECTIONS
FOR MAY 1980 CANDIDATES

	<i>Success Ratios</i>			
	<i>Accounting Practice</i>	<i>Accounting Theory</i>	<i>Auditing</i>	<i>Business Law</i>
No bachelor's degree	.97	.84	.78	.88
Bachelor's degree only	.98	.97	.97	.97
Advanced degree—				
Master's in accounting	1.42	1.39	1.36	1.31
MBA accounting major	1.21	1.27	1.31	1.23
Other MBA	1.11	1.08	1.18	1.25
Non-business master's	1.29	1.33	1.46	1.46
Law degree	1.15	1.22	1.24	2.42
Ph. D. or DBA	2.06	2.27	1.66	1.84

Nature of Educational Institution

In 1980 examination candidates were asked for the first time to identify the types of educational institutions where they received their training. The percentages attending or graduating from each type of educational institution surveyed, and the examination success by group are shown in Table 11. To provide greater comparability, this table has been restricted to first-time candidates and has been divided among candidates with less than bachelor's degrees, bachelor's degrees only, and those with advanced degrees. The percentages of candidates attending these institutions add up to more than 100% because the candidate could have attended more than one institution. This was particularly true of candidates with advanced degrees.

Table 11 shows that candidates with advanced degrees were more likely to have attended schools of professional accounting, as well as liberal arts or other non-business colleges, than those candidates with bachelor's degrees only. Candidates with bachelor's degrees, on the other hand, were more likely to have obtained part of their training at community colleges.

This table also indicates that highest overall success, at both the bachelor's and advanced levels, was associated with candidates who obtained their education (or a portion of it) at liberal arts or non-business colleges. The success rates associated with particular types of institutions are not necessarily indicative of that institution's quality. Rather, this is an index to the abilities of students attached to those institutions. This theme is further developed later in this section

TABLE 11
NATURE OF EDUCATIONAL INSTITUTION
ATTENDED AND RELATIONSHIP TO
CREDIT EARNED BY
FIRST-TIME MAY 1980 CANDIDATES

	<u>Percentage of Candidates</u>	<u>Percentage of Candidates Earning</u>		
		<u>No Credit</u>	<u>Partial Credit</u>	<u>Full Credit</u>
— Less Than Bachelor's Degree —				
College of business	69%	63%	23%	14%
School of professional accounting*	4	28	36	36
Liberal arts or non-business college	19	61	22	17
Community (or junior) college	32	65	21	14
Proprietary school*	3	25	50	25
— Bachelor's Degree Only —				
College of business	74%	57%	28%	15%
School of professional accounting	5	59	28	13
Liberal arts or non-business college	25	56	28	16
Community (or junior) college	18	64	24	12
Proprietary school	1	65	21	14
— Advanced Degree —				
College of business	79%	43%	34%	23%
School of professional accounting	11	40	34	26
Liberal arts or non-business college	39	33	36	31
Community (or junior) college	11	46	32	22
Proprietary school	2	36	38	26

*Data not meaningful because few candidates were involved — approximately 10 in each of these two groups.

Table 12 relates success ratios for individual examination sections to type of educational institution for first-time candidates. The primary intention of this table is to identify examination sections where a particular type of institution is effective. Comparisons among institutions are not necessarily appropriate, in part because candidates with both undergraduate and advanced degrees have been grouped in this table. Advanced degrees, which are related to better examination performance, tend to be associated with attendance at liberal arts and non-business colleges in this table. Consistent with Table 5, first-time candidates from all institutions do better on accounting theory and accounting practice.

In general, Table 12 also indicates that performance on examination sections follows a fairly consistent pattern. For example, the success ratio for liberal arts or non-business candidates was consistently higher than for college of business candidates. The exceptions to this consistent pattern were the candidates of professional schools, who performed better than expected on business law and poorer on accounting practice, and of proprietary schools, whose performance on practice was not as high relatively as for auditing and law. However, both the professional school and proprietary school groups were small (900 and 200 first-time candidates respectively), and this may have led to atypical results.

TABLE 12
RELATIONSHIP OF EDUCATIONAL INSTITUTION
ATTENDED TO SUCCESS ON
INDIVIDUAL EXAMINATION SECTIONS
FOR FIRST-TIME MAY 1980 CANDIDATES

	<i>Success Ratios</i>			
	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
College of business	1.11	1.20	.99	1.02
School of professional accounting	1.12	1.26	1.06	1.15
Liberal arts or non-business college	1.19	1.27	1.07	1.10
Community (or junior) college	.95	1.04	.85	.93
Proprietary school	.99	1.19	1.08	1.09

Candidates also were asked to identify the college or university where they obtained the major portion of their accounting education. The primary intention was not to make comparisons among universities but rather to compile data on the universities providing candidates for the examination.

Candidates identified a total of 1,247 institutions of higher learning as primary sources of accounting education. Of these, 214 were accredited by the American Association of Collegiate Schools of Business: 137 for both their bachelor's and master's programs, 15 for their master's programs only, and 62 for the bachelor's program only. The remaining 1,035 schools were not accredited by the AACSB, though they often were accredited by other bodies. (See Appendix for listing of accredited schools.)

Tables 13 and 14 present the relative performance of first-time candidates in terms of accreditation status of the institutions they attended; Table 13 shows overall performance and Table 14 success ratios on individual sections. Both tables have been divided into candidates with bachelor's degrees or less and those with advanced degrees. Note, however, that a candidate with an advanced degree may not have obtained his/her primary accounting education at the same institution awarding the advanced degree. In such cases the primary (bachelor) degree institution would have been indicated.

For candidates with bachelor's degrees or less, top examination performance was associated with those whose schools had programs accredited at both the bachelor's and master's level; those whose schools were accredited only for the bachelor's degree performed slightly better than those whose schools were non-accredited. Among holders of advanced degrees, the top group was that associated with schools accredited only at the master's level. (These often are prestigious schools that do not offer undergraduate programs in accounting.) Advanced degree candidates from schools accredited for both the bachelor's and master's also did well, but the "bachelor's only" group performed no better than those who received their training at non-accredited schools. In fact, candidates with bachelor's degrees from institutions whose master's programs were accredited did as well as those with advanced degrees from programs that were not accredited.

The data in this section should not be considered critical of any class of schools or imply that any class has inferior instruction. To a great extent, an institution's output reflects the quality of its incoming students. Generally, more capable students tend to be attracted to "name" schools that are more likely to be accredited. An indication of this trend is shown in Table 15, which compares scores on the Scholastic Aptitude Test (SAT) for the various classes of schools. Students enrolled in programs accredited at the master's level scored higher in both the verbal and mathematics SAT. Those in the programs accredited at both bachelor's and master's level score somewhat higher than the other two groups in the verbal portion of the SAT and do considerably better in the mathematics portion. Students in programs accredited only at the bachelor's level ranked slightly higher overall on the SAT than those students at non-accredited schools.

TABLE 13
RELATIONSHIP OF COLLEGE ACCREDITATION STATUS
TO CREDIT EARNED BY
FIRST-TIME MAY 1980 CANDIDATES

	<i>Percentage of Candidates</i>	<i>Percentage of Candidates Earning</i>		
		<i>No Credit</i>	<i>Partial Credit</i>	<i>Full Credit</i>
— Bachelor's Degree or Less—				
Accredited for—				
Bachelor's and master's	43%	50%	32%	18%
Bachelor's only	12	62	26	12
Non-accredited	45	66	23	11
Total	<u>100%</u>			
— Advanced Degree —				
Accredited for—				
Bachelor's and master's	47%	34%	38%	28%
Master's only	5	24	38	38
Bachelor's only	10	50	35	15
Non-accredited	38	53	29	18
Total	<u>100%</u>			

TABLE 14
RELATIONSHIP OF COLLEGE ACCREDITATION STATUS
TO SUCCESS ON INDIVIDUAL EXAMINATION SECTIONS
FOR FIRST-TIME MAY 1980 CANDIDATES

	<i>Success Ratios</i>			
	<i>Accounting Practice</i>	<i>Accounting Theory</i>	<i>Auditing</i>	<i>Business Law</i>
— Bachelor's Degree or Less —				
Accredited for—				
Bachelor's and master's	1.20	1.32	1.12	1.13
Bachelor's only	.94	1.10	.81	.85
Non-accredited	.88	.92	.69	.81
— Advanced Degree —				
Accredited for—				
Bachelor's and master's	1.66	1.79	1.33	1.60
Master's only	1.89	2.07	1.72	1.86
Bachelor's only	1.22	1.33	1.09	1.21
Non-accredited	1.21	1.29	1.10	1.26

TABLE 15
RELATIONSHIP OF SAT SCORES TO
COLLEGE ACCREDITATION STATUS FOR
FIRST-TIME MAY 1980 CANDIDATES

	<i>Accredited at</i>			
	<i>Not Accredited</i>	<i>Bachelor's Level</i>	<i>Master's Level</i>	<i>Both Levels</i>
— Percentage of Candidates Achieving Level Shown —				
SAT Verbal—				
200-399	9%	8%	4%	5%
400-499	33	30	7	25
500-599	40	41	39	45
600-699	16	19	44	23
700-800	2	2	6	2
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
SAT Mathematics—				
200-399	2%	2%	—%	1%
400-499	11	8	2	6
500-599	36	38	8	29
600-699	40	41	51	45
700-800	11	11	39	19
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

Undergraduate Major

Table 16 shows that the percentage of first-time candidates with undergraduate majors in accounting increased in May 1980. This relative increase was consistent with the abrupt rise in accounting enrollment in the mid-1970s. Candidates with undergraduate degrees only were much more likely to have been undergraduate accounting majors. The major declines were in other business administration majors at the bachelor's level and mathematics-engineering at the graduate level. This latter decline is somewhat unfortunate since these students traditionally have been stronger candidates.

TABLE 16
UNDERGRADUATE MAJORS FOR
FIRST-TIME MAY CANDIDATES
1975 AND 1980

	<i>No Advanced Degree</i>		<i>Advanced Degree</i>	
	<i>1975</i>	<i>1980</i>	<i>1975</i>	<i>1980</i>
Accounting	88%	92%	30%	35%
Business administration	7	4	23	23
Mathematics-engineering	1	1	15	8
Liberal arts	3	2	24	25
Other	1	1	8	9
Total	100%	100%	100%	100%

Table 17 summarizes the percentages of each undergraduate major group that received no credit, partial credit, and full credit for the examination. In comparing the first two categories, accounting majors and business administration majors, the former group was more likely to earn some credit on the CPA Examination, but less likely to earn full credit. An appropriate question is why the accounting majors were not clearly superior to business majors, given that (1) presumably they have more accounting training, and (2) accounting students historically have been considered by many observers to be scholastically superior to other business students. The first observation is somewhat misleading because examination candidates, regardless of major, typically had considerable amounts of accounting training. The median for accounting majors was slightly above 30 hours and for other business majors slightly below. Moreover, the business major sitting for the examination typically may be expected to be an above-average business student whereas many more "average" accounting students may be expected to become candidates. (This last assertion cannot be tested since the USIQ data did not include information for either accounting or business students who did not sit for the examination.)

Similar observations apply to comparisons of the relative performance of accounting majors and non-business majors on the CPA Examination. This question is further considered below.

TABLE 17
RELATIONSHIP OF UNDERGRADUATE MAJOR
TO CREDIT EARNED BY
FIRST-TIME MAY 1980 CANDIDATES

	<i>No Advanced Degree</i>			<i>Advanced Degree</i>		
	<i>No Credit</i>	<i>Partial Credit</i>	<i>Full Credit</i>	<i>No Credit</i>	<i>Partial Credit</i>	<i>Full Credit</i>
Accounting	59%	28%	13%	49%	31%	20%
Business administration	64	21	15	44	39	17
Mathematics-engineering	33	32	35	27	37	36
Liberal arts	43	30	27	35	34	31
Other	45	34	21	39	37	24

Hours of Accounting and Other Pertinent Subjects

The distribution of semester accounting hours for first-time May 1980 candidates is summarized in Table 18. The candidates have been divided among those with undergraduate training only (84.1% of all candidates), those with graduate training only (1.6%), and those with training at both levels (13.7%). Only 107 candidates (.6% of the total) claimed to have no academic training at all.

Despite the relative increase in accounting majors, there was little increase in hours of accounting study. The first two categories in Table 18 showed the same percentages in May 1975. The "19 to 24 hour" category was 9% in 1975, "25 to 30 hours" was 36%, and 52% of candidates had 30 or more hours in 1975 (compared with 54% in 1980). No analysis of the above-30 category was made in 1975.

Of the candidates with undergraduate training only, a majority had accounting training of 25 to 36 hours, a rather narrow range equivalent to from 9 to 12 courses. For those with graduate training, nearly two-thirds of the candidates were in the 19 to 36 hour range (7 to 12 courses); 56% of the candidates with both undergraduate and graduate training in accounting were in the 25 to 42 hour range (9 to 14 courses). It is noteworthy that 73% of those first-time candidates with both undergraduate and graduate training had over 30 hours of accounting.

The number of candidates claiming over 54 hours (19 courses or more) is disconcerting; generally this would be considered disproportionate, even with training at both graduate and undergraduate levels. There is a possibility of misreporting in this area, either intentional (to impress the graders) or unintentional by incorrect conversion (or non-conversion) of quarter hours to semester hours or counting a course more than once, e.g., as both an introductory course and financial accounting course.

TABLE 18
SEMESTER HOURS OF ACCOUNTING
FOR FIRST-TIME MAY 1980 CANDIDATES

	<i>Nature of Training</i>			
	<i>Undergrad Only</i>	<i>Graduate Only</i>	<i>Both Undergrad and Graduate</i>	<i>All First-Time Candidates</i>
1 to 12 hours	*	3%	1%	1%
13 to 18 hours	2%	5	2	2
19 to 24 hours	12	21	8	11
25 to 30 hours	35	28	17	32
31 to 36 hours	27	17	21	26
37 to 42 hours	13	11	18	14
43 to 48 hours	5	4	11	6
49 to 54 hours	3	2	9	4
Over 54 hours	3	9	13	4
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

*Less than 1/2 of 1%

Data on individual types of accounting courses were gathered for the first time in 1980. These are summarized in Table 19, together with data for selected pertinent courses. For this table hours taken at the graduate and undergraduate level have been grouped together. Usually, 1-3 hours equal one course. As noted in connection with Table 18, possibilities for overreporting exist. However, the overall evidence provided by the table is considered reliable.

The "typical" first-time CPA Examination candidate in May 1980 took two introductory accounting courses, two to three financial accounting courses, one to two courses each in tax and cost, one in auditing, and a sufficient number of electives to bring his/her total to ten or eleven accounting courses. Among other accounting courses, systems was the most popular, followed by CPA review and governmental accounting, with international accounting courses attracting only 5% of the candidates.

Perhaps the most interesting statistic in these data were the large number of candidates (9%) who claimed to have had no courses in financial accounting or accounting theory. (There may have been some misreporting here if candidates did not recognize the nature of the courses commonly termed "intermediate".) Another result (not arising from misreporting) was the near-parity between hours of tax and cost; one would have expected the latter to be more prevalent.

Candidates reported hours of mathematics in 1975 but not in the same format as in 1980. In 1975, 34% of candidates indicated they had no calculus, 27% one course, and 21% two courses. There probably was some increase in the amount of calculus taken, but this was not definite because of the inclusion of "other advanced mathematics" in the calculus category in 1980. Similarly, college algebra and business mathematics were reported individually in 1975, obviating comparison to pre-calculus mathematics.

Among the other three categories (statistics, computer, business law) there were minor changes only—a slight increase in the number of candidates who had taken statistics and probability and a slight decrease for business law. Perhaps the most unusual result was that computer education remained virtually unchanged; 13% of first-time candidates still had no computer course, and over half had only one.

TABLE 19
SEMESTER HOURS OF SELECTED
ACCOUNTING AND OTHER PERTINENT
COURSES FOR FIRST-TIME
MAY 1980 CANDIDATES

	<i>Percentage of Candidates Reporting</i>				
	<i>No Hours</i>	<i>1-3 Hours</i>	<i>4-6 Hours</i>	<i>7-9 Hours</i>	<i>Over 9 Hours</i>
Accounting courses—					
Introductory	2%	13%	66%	13%	6%
Financial and theory	9	14	29	29	19
Auditing	5	69	24	1	1
Tax	3	45	44	6	2
Cost and managerial	2	42	45	8	3
Governmental	71	27	2	*	*
International	95	4	1	*	*
Systems	64	28	6	1	1
CPA review	72	21	6	*	1
Other courses—					
Precalculus					
mathematics	25	35	29	7	4
Calculus and advanced					
mathematics	26	31	26	8	9
Statistics and probability	2	37	47	10	4
Computer	13	52	25	6	4
Business law	2	23	58	13	4

*Less than 1/2 of 1%

Table 20 summarizes success ratios for three examination sections—auditing, accounting theory and accounting practice—by the amount of accounting training. It also shows the overall status of the candidates in terms of all four examination sections. For candidates with undergraduate training only, additional accounting courses appeared to improve examination performance—up to 42 hours, where declining results began to occur. Performance above 54 hours diminished sharply, indicating one of three things: (1) that quality of course is not consistent with quantity in such unbalanced programs; (2) that weaker candidates tend to undertake excessive programs of this nature; or (3) overreporting of hours by candidates in this category.

While the undergraduate degree candidates follow a fairly predictable pattern, the same predictions cannot be made for candidates who also have graduate training. A variety of influences, including caliber of student, quality of course, and percentage of courses at graduate level, may have affected this comparison.

TABLE 20
RELATIONSHIP OF SEMESTER HOURS OF ACCOUNTING
TO SUCCESS ON EXAMINATION FOR
FIRST-TIME MAY 1980 CANDIDATES

	<i>Success Ratios</i>			<i>Overall Status</i>		
	<i>Accounting Practice</i>	<i>Accounting Theory</i>	<i>Auditing</i>	<i>No Credit</i>	<i>Partial Credit</i>	<i>Full Credit</i>
— Undergraduate Training Only —						
1 to 12 hours	.66	.84	.70	75%	15%	10%
13 to 18 hours	.86	.90	.72	65	26	9
19 to 24 hours	.84	.97	.84	63	25	12
25 to 30 hours	.89	.99	.83	63	25	12
31 to 36 hours	1.15	1.22	.94	54	30	16
37 to 42 hours	1.18	1.27	.99	54	29	17
43 to 48 hours	1.10	1.17	.84	55	30	15
49 to 54 hours	1.00	1.04	.84	59	25	16
Over 54 hours	.93	.95	.76	65	25	10
— Graduate and Undergraduate Training —						
1 to 12 hours	1.02	1.40	1.99	39%	42%	19%
13 to 18 hours	1.68	1.51	1.69	44	35	21
19 to 24 hours	1.22	1.29	1.22	48	35	17
25 to 30 hours	1.46	1.59	1.49	40	34	26
31 to 36 hours	1.30	1.44	1.14	49	32	19
37 to 42 hours	1.52	1.75	1.39	38	38	24
43 to 48 hours	1.54	1.52	1.39	42	35	23
49 to 54 hours	1.51	1.60	1.29	42	39	19
Over 54 hours	1.44	1.40	1.29	48	29	23

Table 21 presents an alternative view of curriculum effects, by correlating amount of training with performance on the four examination sections. As noted above, correlation coefficients measure the relationship between two variables—a positive coefficient indicates the two variables are associated, and the closer the coefficient approaches 1, the greater is the association. A low magnitude or zero indicates no correlation, and a negative coefficient indicates the variables have an inverse relationship. If a relationship is statistically significant at the 1% level, this indicates that there is at most a 1% chance of asserting that a relationship exists when in fact one does not. Whether the relationship is an *important* one is not indicated by statistical significance per se. That determination depends upon the correlation coefficient itself and judgment as to what constitutes importance.

Two sets of correlation coefficients have been presented in Table 21. The simple coefficients show the unadjusted relationship between hours and examination performance. The partial coefficients show the residue remaining after the removal of the effect of level of education, SAT scores, undergraduate grade point average, and hours of independent study per section. These were expected to be the principal other factors affecting candidate performance. Table 21 also presents correlation coefficients for individual accounting and other pertinent courses.

TABLE 21
CORRELATION BETWEEN SEMESTER HOURS IN
SELECTED COLLEGE COURSES AND FIRST-TIME
MAY 1980 CANDIDATE SCORES ON
INDIVIDUAL EXAMINATION SECTIONS

	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
— Simple Correlation Coefficients —				
Total hours of accounting—				
Undergraduate training only	.08*	.07*	.01	.04*
Graduate training only	-.14	-.15	-.26*	-.17*
Training at both levels	.05	.02	-.03	.02
Individual accounting courses—				
Introductory	-.03*	-.05*	-.07*	-.04*
Financial and theory	.14*	.16*	.11*	.10*
Auditing	.03*	.03*	.04*	.03*
Tax	.08*	.06*	.01	.08*
Cost and managerial	.03*	.02	-.02	.00
Governmental	.03*	.00	-.03*	-.01
International	-.02	-.03*	-.05*	-.02*
Systems	.03*	.03*	-.07*	.03*
CPA review	.09*	.09*	.01	.06*
Other pertinent courses—				
Precalculus mathematics	-.04*	-.04*	-.04*	-.03*
Calculus	.17*	.15*	.13*	.12*
Statistics and probability	.05*	.05*	.04*	.02*
Computer	.01	-.01	.00	-.01
Business law	.03*	.02	-.01	.12*
— Partial Correlation Coefficients —				
Total hours of accounting—				
Undergraduate training only	.12*	.07*	.02	.04
Graduate training only	.01	.06	-.29	.06
Training at both levels	.02	-.02	-.01	-.02
Individual accounting courses—				
Introductory	.01	-.03	-.02	-.01
Financial and theory	.13*	.15*	.09*	.11*
Auditing	.06*	.06*	.09*	.03
Tax	.10*	.05*	.01	.08*
Cost and managerial	.04	.00	-.02	-.02
Governmental	.09*	.05*	.01	-.01
International	-.01	-.01	.00	-.04*
Systems	-.01	.00	.04	-.03
CPA review	.05*	.04	-.05*	.00
Other pertinent courses—				
Precalculus mathematics	-.04	-.03	-.05*	-.04
Calculus	.11*	.07*	.06*	.05*
Statistics and probability	.05*	.03	.05*	.00
Computer	-.01	-.03	-.02	-.03
Business law	.02	.00	-.01	.15*

*Statistically significant at 1% level.

Among the simple correlation coefficients, the most dramatic observation was the high *negative* correlation between hours of accounting (graduate training only) and examination success. In interpreting this result, one first should recognize that relatively few candidates (250) are involved, and thus data were subject to influence from intentional or unintentional misreporting by a small number of candidates. That such misreporting may have occurred is shown in the following comparison for principal groups within this category:

<u>Graduate hours of Accounting</u>	<u>Percentage of Candidates</u>	<u>Credit Earned</u>		
		<u>None</u>	<u>Partial</u>	<u>Full</u>
1 to 18 hours	8%	35%	40%	25%
19 to 24 hours	21	39	46	15
25 to 30 hours	28	37	35	28
31 to 36 hours	17	42	23	35
37 to 42 hours	11	36	39	25
Over 42 hours	15	69	26	5

Candidates who reported over 42 hours were asserting that they had more than 14 accounting courses at the graduate level. In general this is considered unlikely; even if true it would likely be evidence of a weak program where quantity replaces quality. The poor results for these candidates was the cause of the negative correlation coefficients.

Relatively poor results in the high hour ranges also affected the correlation coefficients for the other two accounting hour categories (undergraduate training only and training at both graduate and undergraduate levels) as well as those for several individual courses.

Simple correlation coefficients for hours of accounting and scores on individual examination sections, excluding highest ranges—over 48 hours for candidates with undergraduate training only (6% of these candidates), over 42 hours for candidates (15%) with graduate training only, and over 54 hours (13%) for those with training at both levels are as follows:

	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
Undergraduate training only	.10*	.10*	.04*	.06*
Graduate training only	.04	.11	-.07	.10
Training at both levels	.05	.05	-.02	.01

*Significant at 1% level

These coefficients present a more realistic assessment of the relationship between performance and the relevant range of accounting hours.

The lower half of Table 21 shows partial correlation coefficients. The objective of partial correlation is to adjust for the effects of indirect influences. For example, the high simple coefficients noted in Table 21 for calculus training are not indicative of the specific value of calculus to preparation for the examination. Rather they show that the students who are superior candidates are more likely to elect calculus in college. The partial correlation coefficients, which adjust for level of education, SAT scores, grade point average, and extent of independent study, present a more realistic assessment of the importance of calculus—note that it still is a positive, statistically-significant factor.

Among individual accounting courses, hours of financial and theory were most strongly associated with examination scores—this observation held for all four sections, but (as one would expect) correlations were highest for theory and practice. Similarly, additional hours of auditing were associated with higher auditing scores, and tax and governmental courses aided in practice. All of these observations were as expected, given the content of the section examinations. Courses in taxation also were correlated positively with business law scores, presumably because tax practitioners often have legal training.

There was minor impact on examination performance from courses in cost, managerial accounting, and international accounting. The same was true of systems and CPA review courses, once the impact of other influences was eliminated in the partial coefficient computation. Negative coefficients were associated with introductory accounting hours, evidencing that weaker candidates attend programs that stretch out the introductory sequence.

Among non-accounting courses, the effect of business law hours on the business law score was the most pronounced. Other than business law and calculus, the only course with a positive effect was statistics and probability (for auditing and practice). As with introductory accounting, the coefficients for precalculus mathematics were all negative. This shows that the weaker candidates are more likely to attend schools that make lower mathematical demands on their students and/or to require remedial college work in mathematics.

As with total accounting hours, the relationship presented in Table 21 for individual courses may be understated because of misreporting in the highest ranges of hours.

Success ratios for examination-related courses and examination sections are presented in Table 22. This table further develops and adds more detail to Table 21 and shows the pattern of the relationships. In most cases Table 22 shows increasing examination success as more pertinent courses were taken. However, there was a point associated with a level of maximum success; as candidates exceeded desirable levels (which varied among courses) their chances of success generally started to decline; this pattern prevailed in most courses but not all, e.g., financial and accounting theory.

TABLE 22
RELATIONSHIP OF SEMESTER HOURS IN SELECTED AREAS
TO SUCCESS RATIOS ON SELECTED SECTIONS
FOR FIRST-TIME MAY 1980 CANDIDATES

<i>College Course and Examination Section</i>	<i>Number of Hours</i>				
	<i>None</i>	<i>1-3</i>	<i>4-6</i>	<i>7-9</i>	<i>Over 9</i>
Financial and Accounting theory—					
Accounting theory	.88	.97	1.02	1.29	1.40
Accounting practice	.84	.87	.93	1.20	1.30
Auditing—					
Auditing	.90	.88	1.15	1.18	.70
Tax—					
Accounting practice	.91	.97	1.16	1.12	1.33
Cost and managerial—					
Accounting theory	.89	1.16	1.18	1.24	1.03
Accounting practice	.82	1.05	1.09	1.16	1.03
Governmental—					
Accounting theory	1.14	1.21	.94	.47	.42
Accounting practice	1.04	1.18	.93	.50	.56
International—					
Accounting theory	1.16	1.20	.61	.82	—
Accounting practice	1.07	1.13	.55	.88	—
Systems—					
Auditing	.89	1.04	1.06	1.22	1.14
CPA problems—					
Auditing	.92	.98	1.14	.97	.88
Accounting theory	1.07	1.37	1.45	1.16	1.04
Business law	.95	1.13	1.21	1.09	.79
Accounting practice	1.25	1.04	1.02	.98	1.10
Statistics and probability—					
Auditing	1.14	.89	.95	1.12	1.14
Computer—					
Auditing	.97	.95	.97	.93	1.02
Business law—					
Business law	1.02	.84	1.00	1.26	1.28

Comparison of Accounting and Non-Business Students

One of the perplexities of this and prior USIQ studies is the lack of correlation between accounting education and examination success. Non-business candidates perform as well or better than accounting and business candidates. In part, these results occur because non-business candidates are more likely to seek advanced degrees. However, even after this effect is removed by partial correlation the observation still holds.

This result indicates that non-business candidates assimilate the knowledge necessary for the examination in a different manner than in traditional courses and/or that they have superior aptitudes for accumulating, applying, and communicating knowledge. To obtain evidence in this area, the characteristics of five separate groups of first-time May 1980 candidates were studied. These five groups and their relative examination performances were as follows:

	<u>No Credit</u>	<u>Partial Credit</u>	<u>Full Credit</u>
No advanced degree—			
Accounting major	59%	28%	13%
Liberal arts major	43	30	27
Advanced degree—			
MBA accounting major	42	35	23
Master of accounting	39	36	25
Non-business masters	39	30	31

Accounting majors constituted 92% of those candidates without advanced degrees; liberal arts majors were 2%. Among holders of advanced degrees, MBA accounting majors were the largest group—38% of first-time candidates; masters of accounting were at 21%, and non-business masters at 8.5%. (The other large groups, undergraduate business majors and non-accounting MBAs were excluded as non-pertinent.)

Undergraduate liberal arts majors outperformed accounting majors on all subjects of the examination. Similarly, holders of non-business masters did better than MBA accounting majors. However, as shown in Table 10, masters in accounting were associated with higher scores on accounting theory and accounting practice than non-business masters.

Table 23 summarizes pertinent factors concerning these five groups. Among these are total hours of accounting, SAT scores, undergraduate grade point average, accreditation of accounting program, average hours of coaching course per section, and average hours of independent study per section.

Undergraduate accounting majors not only had more hours of accounting than liberal arts majors but were more likely to have obtained their training at accredited schools. However, the liberal arts majors are not undertrained in accounting. A large majority (72%) have over 24 semester hours of accounting, i.e., over eight courses.

The principal advantage of liberal arts students—presumably the cause of their superior performance—is their higher academic aptitude as indicated by their higher SAT scores. There were more than twice as many liberal arts students with verbal scores over 600 and 30% more with mathematics scores over 600. Liberal arts students also had slightly more hours of CPA coaching classroom study and independent study. There was little difference in the two groups in undergraduate grade point averages.

Comparisons among the holders of graduate degrees were similar. Candidates with masters in accounting had the most accounting training, followed by the MBA accounting majors and the non-business masters. A similar order prevailed for program accreditation. Offsetting this, non-business masters were associated with higher SAT scores, both verbal and mathematics; MBA accounting majors had higher mathematics scores than the masters in accounting, but verbal scores for the two were nearly equal. MBA accounting majors had the most hours of classroom CPA coaching, and non-business masters the most hours of independent study; both groups exceeded the master of accounting graduates. Grade point averages again were similar.

These comparisons show that two-dimensional comparisons among educational groups may be misleading. There certainly are valid reasons (primarily the higher scholastic ability evidenced by higher SAT scores) why liberal arts undergraduate majors outperform accounting majors. A similar observation explains why holders of non-business masters degrees do as well as graduates of accounting programs.

TABLE 23
CHARACTERISTICS OF SELECTED GROUPS OF
NON-BUSINESS AND ACCOUNTING STUDENTS
INCLUDED IN FIRST-TIME MAY 1980 CANDIDATES

	<i>Undergraduate</i>		<i>Graduate</i>		
	<i>Accounting Major</i>	<i>Liberal Arts</i>	<i>MBA Accounting</i>	<i>Master of Accounting</i>	<i>Non-business Master's</i>
Accounting hours—					
1 to 24	13%	28%	14%	6%	26%
25 to 30	35	37	19	7	36
31 to 36	28	26	21	16	20
37 to 42	13	5	17	19	12
Over 42	11	4	29	52	6
SAT verbal score—					
200 to 399	8%	1%	4%	5%	—%
400 to 499	21	7	16	14	9
500 to 599	46	36	41	39	23
600 to 699	20	46	33	36	54
700 to 800	5	10	6	6	14
SAT mathematics score—					
200 to 399	1%	—%	—%	1%	—%
400 to 499	9	5	4	7	4
500 to 599	34	21	23	27	14
600 to 699	43	50	44	45	41
700 to 800	13	24	29	20	41
Undergraduate grade point average—overall—					
3.50 to 4.00	27%	26%	27%	28%	27%
3.00 to 3.49	40	43	41	42	39
2.50 to 3.00	26	26	27	23	28
Under 2.50	7	5	5	7	6
AACSB accredited business program—					
Bachelor's—Master's	45%	34%	43%	59%	33%
Masters's only	—	5	8	—	3
Bachelor's only	12	10	12	9	7
Not accredited by AACSB	43	51	37	32	57
Average hours of classroom coaching—					
None	52%	47%	46%	57%	46%
1-15	18	15	16	17	17
16-35	13	12	15	13	18
36-55	15	24	21	11	18
Over 55	2	2	2	2	1
Average hours of independent study—					
None	5%	4%	4%	7%	2%
1-15	37	33	27	33	26
16-35	31	33	33	29	27
36-55	18	20	20	18	29
Over 55	9	10	16	13	16

IV. WORK EXPERIENCE

As in previous USIQ studies, data were related to work experience in public accounting, private accounting, governmental accounting, and full-time accounting teaching. Historical comparisons of the type of work experience for first-time and repeat candidates are presented in Table 24.

As noted in Section II, candidates are taking the CPA Examination earlier. This is consistent with a long-term trend for states to eliminate experience requirements.

Candidates from public accounting are much more likely to sit for the examination early in their careers. In fact, more than twice as many first-time May 1980 candidates had a year of experience (or more) in private accounting as had similar public accounting experience.

In Table 24 candidates not indicating any experience have been combined with those who had less than one year of experience. This was done in part to provide comparability with prior studies. The percentages of first-time candidates indicating "less than one year's experience" were as follows:

Public	29%
Private	14%
Governmental	7%
Full-time teaching	4%

Combining the above percentages with those appearing in Table 24 indicates that first-time candidates with some experience in public accounting were 38%; private accounting 34%; governmental accounting 13%; and full-time teaching 5%. Similar figures for repeat candidates were: public accounting 73%, private accounting 41%, governmental accounting 15%, and teaching full-time 5%.

TABLE 24
HISTORICAL COMPARISON OF WORK EXPERIENCE
FOR FIRST-TIME AND REPEAT MAY CANDIDATES

	<i>First-time Candidates</i>			<i>Repeat Candidates</i>		
	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>1970</i>	<i>1975</i>	<i>1980</i>
Public accounting—						
None or less than one year	76%	84%	91%	39%	42%	49%
One to three years	21	13	7	42	43	39
Four to six years	2	2	1	11	9	7
Over six years	1	1	1	8	6	5
Private accounting—						
None or less than one year	83%	82%	80%	73%	75%	69%
One to three years	10	11	12	14	15	18
Four to six years	4	3	4	4	4	6
Over six years	3	4	4	9	6	7
Governmental accounting—						
None or less than one year	92%	92%	94%	90%	88%	90%
One to three years	5	6	4	4	7	6
Four to six years	1	1	1	2	3	2
Over six years	2	1	1	4	2	2
Teaching accounting full-time—						
None or less than one year	99%	99%	99%	99%	99%	98%
One or more years	1	1	1	1	1	2

Some candidates had experience in more than one accounting area. These relationships are presented in Table 25. In this table the percentages of total candidates with any experience are presented in the left-hand column, and the percentages with one or more years in any area are shown in the four right-hand columns. For example, 73% of repeat candidates had some experience in public accounting, as noted above. Of this group, 69% had one or more years of experience in public accounting, 24% had one or more years in private accounting, 6% had one or more years of governmental accounting, and 2% had one or more years of teaching.

TABLE 25
INTERRELATIONSHIPS AMONG WORK EXPERIENCES
BY TYPE FOR MAY 1980 CANDIDATES

<u>Type of Experience</u>	<u>Percentage</u>	<u>Percentage of Group With</u> <u>One or More Years of Experience in</u>			
		<u>Public</u>	<u>Private</u>	<u>Governmental</u>	<u>Teaching</u>
— First-Time Candidates —					
Public accounting	38%	23%	16%	4%	1%
Private accounting	34	9	58	5	2
Governmental accounting	13	9	18	50	2
Teaching full-time	5	13	26	9	21
— Repeat Candidates —					
Public accounting	73%	69%	24%	6%	2%
Private accounting	41	44	74	9	3
Governmental accounting	15	30	31	68	4
Teaching full-time	5	48	49	19	34

Another way of viewing work experience is by determining its nature. These data, collected for the first time in 1980, are presented in Table 26. The most interesting result in this table is the number of first-time candidates who had "other" types of accounting experience, particularly those with more than one year of this experience. As expected, numerous first-time candidates had some auditing and tax experience, and a majority of repeat candidates had experience in these areas.

TABLE 26
PERCENTAGES OF MAY 1980 CANDIDATES INDICATING
EXPERIENCE IN SELECTED FUNCTIONAL AREAS

	<u>Experience in</u>			
	<u>Auditing</u>	<u>Tax</u>	<u>MAS</u>	<u>Other</u>
— First-Time Candidates —				
Less than one year	26%	18%	2%	15%
One to three years	8	6	2	12
Four to six years	1	1	—	4
Over 6 years	1	1	—	6
Total with experience	<u>36%</u>	<u>26%</u>	<u>4%</u>	<u>37%</u>
— Repeat Candidates —				
Less than one year	26%	20%	5%	11%
One to three years	36	23	4	18
Four to six years	7	5	1	6
Over 6 years	5	5	1	8
Total with experience	<u>74%</u>	<u>53%</u>	<u>11%</u>	<u>43%</u>

Table 27 relates the branch of the profession where experience was obtained to the nature of the experience. The top half of this table includes those candidates with any experience (even if less than one year) and all functional areas where they had any experience whatsoever. The bottom half includes only those candidates that indicated more than one year of experience in any branch of the profession and the functional areas where these candidates showed at least one year of experience. Table 27 illustrates that the candidates with "other" experience primarily obtained it in an area other than public accounting. Auditing and tax experience, as expected, tended to be related to public accounting.

TABLE 27
RELATIONSHIP BETWEEN TYPE OF EXPERIENCE
AND NATURE OF EXPERIENCE FOR MAY 1980 CANDIDATES

	<i>Nature of Experience</i>			
	<u>Auditing</u>	<u>Tax</u>	<u>MAS</u>	<u>Other</u>
— Any Experience —				
First-time candidates—				
Public accounting	80%	64%	10%	45%
Private accounting	46	31	7	88
Governmental accounting	68	41	8	60
Teaching full-time	35	33	12	64
Repeat candidates—				
Public accounting	94	70	15	40
Private accounting	82	60	15	87
Governmental accounting	87	59	14	58
Teaching full-time	73	75	25	75
— One or More Years of Experience —				
First-time candidates—				
Public accounting	50%	61%	15%	53%
Private accounting	29	19	5	89
Governmental accounting	68	42	7	62
Teaching full-time	29	31	11	80
Repeat candidates—				
Public accounting	83	60	11	34
Private accounting	63	41	10	88
Governmental accounting	80	47	8	51
Teaching full-time	56	53	23	87

Tables 28 and 29 reinforce the observation, made in previous USIQ studies, that work experience does not contribute significantly to examination success. In Section II it was reported that first-time candidates, as a group, passed all four parts of the examinations 15% of the time and obtained partial credit in 28% of the cases. Table 28 shows that only full-time teachers as a work group achieved partial and full credit in greater percentages than all other types of first-time candidates. Candidates with MAS experience are representative of the group of all first-time candidates. Moreover, these two groups were the only ones where the performance of candidates with one or more years experience exceeded that of all candidates with experience of any duration; in all other groups examination performance declined with more work experience. Accounting experience should not be construed to be bad in itself. Quite the contrary, this seems to indicate that other effects offset the benefits of experience—weaker candidates tend to defer taking the examination and the benefits of academic preparation are lost as experience and separation from formalized education increase.

TABLE 28
RELATIONSHIP OF WORK EXPERIENCE TO
CREDIT EARNED BY FIRST-TIME MAY 1980 CANDIDATES

	<i>Percentage of Candidates Earning</i>		
	<i>No Credit</i>	<i>Partial Credit</i>	<i>Full Credit</i>
<i>Any experience—</i>			
Public accounting	58%	28%	14%
Private accounting	62	26	12
Governmental accounting	60	26	14
Teaching full-time	48	32	20
Auditing	59	27	14
Tax	59	27	14
MAS	57	28	15
Other	59	27	14
<i>One or more years of experience—</i>			
Public accounting	61	27	12
Private accounting	63	26	11
Governmental accounting	64	24	12
Teaching full-time	43	37	20
Auditing	60	26	14
Tax	63	25	12
MAS	57	27	16
Other	61	27	12

Among successful May candidates (i.e., candidates completing all remaining sections of the examination), 66% indicated some experience in public accounting. Corresponding experience rates for private accounting were 36%, for governmental 13% and for teaching 6%. November candidates of course typically have more experience. The indicated experience for successful candidates in November 1980, in comparison to November 1975 and November 1970, was as follows:

	<i>1970</i>	<i>1975</i>	<i>1980</i>
Public accounting	95%	85%	85%
Private accounting	27	29	41
Governmental accounting	12	12	14
Teaching full-time	4	4	7

The questionnaire did not specifically inquire as to occupation at time of sitting for the examination. The previous data show some shift from public accounting to other accounting areas. Nevertheless, it still appears that a majority of new CPAs were employed in public accounting immediately after passing the examination.

Table 29, based on both first-time and repeat candidates, reaffirms the superior performance of teachers in all sections of the examination except auditing. Public accounting experience and auditing experience (often acquired jointly) led to slightly superior performance on the auditing section, and those candidates with public accounting, governmental accounting, and MAS experience had slightly above-average performance in business law. Generally, work experience was associated with success ratios below 1, indicating performance below the overall average.

TABLE 29
RELATIONSHIP OF WORK EXPERIENCE TO
EXAMINATION SUCCESS FOR MAY 1980 CANDIDATES

	<i>Success Ratios</i>			
	<i>Accounting Practice</i>	<i>Accounting Theory</i>	<i>Auditing</i>	<i>Business Law</i>
Any experience—				
Public accounting	.99	.94	1.07	1.00
Private accounting	.93	.90	.91	.93
Governmental accounting	.89	.88	.90	1.01
Teaching full-time	1.14	1.15	1.04	1.18
Auditing	.97	.94	1.03	.98
Tax	.96	.92	.97	.99
MAS	.98	.96	1.02	1.00
Other	.96	.94	.97	.95
One or more years of experience—				
Public accounting	.99	.85	1.04	1.02
Private accounting	.92	.85	.89	.90
Governmental accounting	.83	.79	.88	1.01
Teaching full-time	1.29	1.20	1.01	1.22
Auditing	.96	.92	1.07	.97
Tax	.93	.83	.90	.97
MAS	.96	.88	.96	1.07
Other	.92	.90	.90	.92

Table 30 summarizes correlation coefficients between work experience and scores on individual examination sections. The top half of the table presents unadjusted simple coefficients. In the partial coefficients presented in the lower half the effects of educational level, SAT scores, undergraduate point average, and hours of independent study have been eliminated. The partial coefficients constitute a more realistic picture of the effects of experience on examination performance.

The results in Table 30 are consistent with those previously noted. There were relatively minor associations between experience and examination performance, and these effects usually were diminished by the partial computation. For example, public accounting experience, which had a statistically-significant negative simple coefficient when associated with auditing scores, showed no association when the partial coefficient was computed.

Only auditing experience (with accounting theory, business law, and accounting practice) and tax experience (with auditing and accounting theory) had statistically-significant partial correlation coefficients; both are negative. Full-time teaching was the only area with consistently positive coefficients; however, none of these relationships were statistically significant.

TABLE 30
CORRELATIONS BETWEEN WORK EXPERIENCE
AND FIRST-TIME MAY 1980 SCORES ON
INDIVIDUAL EXAMINATION SECTIONS

<u>Nature of Experience</u>	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
— Simple Correlation Coefficients —				
Public accounting	-.02	-.10*	-.06*	.00
Private accounting	.00	-.06*	-.02	-.03
Governmental accounting	-.06	-.13*	-.02	.03
Teaching full-time	.07	.04	.01	.07
Auditing	-.07*	-.11*	.01	-.05*
Tax	-.03*	-.13*	-.11*	.00
MAS	.01	-.01	.03	.04*
Other	-.03	-.05*	-.03*	-.02
— Partial Correlation Coefficients —				
Public accounting	-.02	-.06	.00	-.06
Private accounting	-.01	-.05	.05	-.01
Governmental accounting	-.01	-.10	.01	.03
Teaching full-time	.03	.04	.07	.02
Auditing	-.07*	-.12*	.04	-.10*
Tax	.01	-.10*	-.08*	-.02
MAS	.00	.01	.02	-.01
Other	-.01	.01	.01	.00

*Statistically significant at 1% level.

V. PREVIOUS ACADEMIC PERFORMANCE

Most of the characteristics discussed in this report are ones that the candidate has acquired that might help him/her prepare for the CPA Examination—experience, education, coaching courses, etc. In this section consideration is given to two sets of variables which measure the candidate's previous performance and ability to perform. These are academic grade point averages and scores on academic aptitude and achievement tests. Both sets of data introduce a qualitative aspect that is not present in some of the other reported variables. Of the two, test scores are a more objective standard since they are normed nationally. Grade point averages may vary among both institutions and instructors.

Unfortunately, both of these variables are subject to misreporting, either intentional or unintentional. Test scores in particular may be difficult to remember; in fact, less than 25% of the candidates cited test scores on their questionnaires.

Grade Point Averages

Overall and accounting grade point averages are compared to 1975 (the first year these data were collected) in Table 31. This table shows that grade inflation, a phenomenon of the late 1960's, is still occurring in 1980, particularly at the undergraduate level. Many repeat candidates reported grade point averages above 3.00 (and even 3.50), thus indicating that high grades were less likely than in the past to predict examination success, in particular attaining full credit at the first sitting for the examination.

TABLE 31
COLLEGIATE GRADE POINT AVERAGES
FOR MAY 1975 AND MAY 1980 CANDIDATES

	<i>First-Time</i> <i>Candidates</i>		<i>Repeat</i> <i>Candidates</i>	
	<i>1975</i>	<i>1980</i>	<i>1975</i>	<i>1980</i>
Undergraduate overall—				
3.50 to 4.00	18%	27%	9%	19%
3.00 to 3.49	36	39	32	40
2.50 to 3.00	33	27	41	32
Under 2.50	13	7	18	9
Undergraduate accounting—				
3.50 to 4.00	32%	35%	23%	32%
3.00 to 3.49	36	36	40	54
2.50 to 3.00	23	22	27	11
Under 2.50	9	7	10	3
Graduate overall—				
3.50 to 4.00	39%	44%	29%	27%
3.00 to 3.49	44	44	49	42
2.50 to 3.00	12	9	17	24
Under 2.50	5	3	5	7
Graduate accounting—				
3.50 to 4.00	47%	51%	40%	41%
3.00 to 3.49	40	39	46	50
2.50 to 3.00	10	7	11	7
2.00 to 2.49	3	3	3	2

Overall, good grades remained one of the better predictors of success on the CPA Examination. Table 32 presents success ratios for the four examination sections and overall credit earned in terms of undergraduate grade point averages for first-time candidates. Note, for example, that persons with overall grade averages of 3.5 or better were nearly twice as likely to pass the auditing examination as those in the 3.0 to 3.5 range. The 3.5 group was five times as likely to pass all parts of the examination and four times as likely to earn credit for at least one part as those candidates below the 3.0 group.

While there was variability among all sections based on grade point average, the contrast between grade point average groups was greatest for auditing. This probably occurred because of the greater difficulty of the auditing examination for candidates in general and first-time candidates in particular—only the top candidates tended to pass. Success ratios were higher for theory and practice in all grade point average groups because first-time candidates in general did better on these sections.

Table 32 shows little difference in the relative predictive ability of overall grade point averages and accounting averages with respect to individual examination sections. However, candidates with accounting averages under 3.5 were less likely to earn full or partial credit than those with overall averages under 3.5.

TABLE 32
RELATIONSHIP OF EXAMINATION SUCCESS
AND CREDIT EARNED TO UNDERGRADUATE
GRADE POINT AVERAGES FOR FIRST-TIME
MAY 1980 CANDIDATES

	<i>Grade Point Averages</i>			
	<i>Under 2.50</i>	<i>2.50 to 2.99</i>	<i>3.00 to 3.49</i>	<i>3.50 to 4.00</i>
— Overall Undergraduate Average —				
Success ratios by section—				
Accounting practice	.46	.62	1.05	1.74
Accounting theory	.48	.71	1.14	1.83
Auditing	.38	.52	.88	1.65
Business law	.45	.64	.96	1.61
Percentage of candidates earning—				
Full credit	4%	6%	13%	31%
Partial credit	15	20	30	36
No credit	81	74	57	33
— Undergraduate Accounting Average —				
Success ratios by section—				
Accounting practice	.34	.50	.92	1.77
Accounting theory	.44	.62	1.05	1.81
Auditing	.36	.44	.81	1.59
Percentage of candidates earning—				
Full credit	4%	4%	11%	31%
Partial credit	13	20	29	37
No credit	83	76	60	32

The simple correlation coefficients provided in Table 33 reaffirm the findings of Table 32 and show that graduate grade point averages also were associated with examination success. Grade point averages were positively related to scores for repeat candidates, but these correlations were not as great as for first-time candidates; this presumably occurred because repeat candidates were separated for a longer period from their college courses.

TABLE 33
CORRELATIONS BETWEEN COLLEGIATE GRADE
POINT AVERAGES AND SCORES ON INDIVIDUAL
SECTIONS FOR MAY 1980 CANDIDATES

	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
First-time candidates—				
Undergraduate overall	.34	.38	.35	.30
Undergraduate accounting	.39	.40	.36	.32
Graduate overall	.32	.35	.35	.26
Graduate accounting	.31	.32	.30	.27
Repeat candidates—				
Undergraduate overall	.13	.19	.24	.14
Undergraduate accounting	.15	.18	.21	.14
Graduate overall	.15	.18	.20	.13
Graduate accounting	.17	.17	.19	.11

All relationships are statistically significant at the 1% level.

Test Scores

Data were collected on the following aptitude and achievement tests: Scholastic Aptitude Test (SAT), American College Test (ACT), Graduate Record Examination (GRE), Graduate Management Admissions Test (GMAT), AICPA Accounting Orientation Test, and AICPA Level II Achievement Test. As noted, relatively few candidates could recall their scores. Total responding, both first-time and repeat candidates, were as follows:

SAT	10,400
ACT	2,500
GRE	500
GMAT	800
AICPA Orientation	500
AICPA Level II	800

Not all candidates would have taken these examinations, but certainly more than those shown would have sat for such common indicators as the SAT and ACT.

Table 34 presents comparative SAT scores for first-time candidates who reported scores in May 1975 and May 1980. There was a slight decline in scores, both verbal and mathematics. This finding was consistent with the national trend. First-time candidates with the highest aptitude scores did not have quite as much success in 1980 as in 1975. In 1975 full credit was earned by 55% of the candidates with verbal scores in excess of 700 and 38% of the candidates with mathematics scores over 700. However, SAT scores continued to be highly associated with examination success.

TABLE 34
SAT SCORES FOR FIRST-TIME CANDIDATES IN
MAY 1975 AND MAY 1980 AND RELATIONSHIP
TO CREDIT EARNED IN MAY 1980

	<i>Percentage of Candidates</i>		<i>Percentage of 1980 Candidates Earning</i>		
	<i>1975</i>	<i>1980</i>	<i>No Credit</i>	<i>Partial Credit</i>	<i>Full Credit</i>
Verbal score—					
700 to 800	3%	2%	25%	30%	45%
600 to 699	21	20	33	35	32
500 to 599	43	43	45	35	20
400 to 499	28	28	60	28	12
200 to 399	5	7	70	24	6
Mathematics score—					
700 to 800	18%	16%	25%	40%	35%
600 to 699	42	42	43	35	22
500 to 599	31	33	61	27	12
400 to 499	8	8	75	19	6
200 to 399	1	1	80	13	7

By way of comparison, the SAT scores for 991,000 high school seniors in 1980 were distributed as follows:

	<i>Verbal</i>	<i>Mathematics</i>
700 to 800	1%	3%
600 to 699	6	12
500 to 599	18	25
400 to 499	33	30
200 to 399	42	30

As one would expect, CPA Examination candidates appear to be drawn from a group that is superior in academic aptitude. As previously noted, however, overreporting of SAT scores by examination candidates may affect this comparison.

There was a substantial increase in the number of first time candidates (over 1,000) who reported their ACT scores in 1980. Therefore, the distribution of scores, which follows, was considered more reliable than in 1975.

	<u>ACT Verbal</u>	<u>ACT Mathematics</u>
32 and above	1%	15%
28 to 31	13	38
24 to 27	33	31
20 to 23	35	10
Below 20	18	6

ACT scores, as with SAT scores, were highly associated with examination success. Among candidates with verbal scores of 28 or above, 37% passed all parts and 34% received partial credit; corresponding figures for the Below-20 group were 10% and 21%, respectively. For candidates with mathematics scores of 32 or above, 43% achieved full credit and 37% partial credit; in the 23 or below mathematics group (a group of corresponding size) 9% received full credit and 23% partial credit.

Data on aptitude tests for graduate candidates (GRE and GMAT) were collected for the first time in 1980. Because of the relatively small numbers of candidates involved, Table 35 presents these data for all candidates, i.e., first-timers and repeaters combined. Despite differences in the distribution of scores between the two tests, generally both show improving examination performance as scores increase. The exceptions (the lowest score range for the GRE quantitative and the highest score range for the GMAT) were situations involving extremely few candidates.

**TABLE 35
SCORES ON GRADUATE STUDY APTITUDE
EXAMINATIONS FOR MAY 1980 CANDIDATES
AND RELATIONSHIP TO CREDIT EARNED**

	<u>Scores</u>				
	<u>200 to 399</u>	<u>400 to 499</u>	<u>500 to 599</u>	<u>600 to 699</u>	<u>700 to 800</u>
— Percentage of Reporting Candidates —					
Graduate Record Examination—					
Verbal	10%	24%	36%	25%	5%
Quantitative	1	8	27	39	25
GMAT—					
Verbal	25	24	33	16	2
Quantitative	20	24	36	17	3
— Percentage of Candidates in Category Earning Credit for One or More Sections —					
Graduate Record Examination—					
Verbal	40%	49%	56%	61%	79%
Quantitative	57	35	50	53	65
GMAT—					
Verbal	46	49	57	74	64
Quantitative	42	47	56	75	52

The AICPA Orientation Test, like the SAT and the ACT, is a test of the student's ability to succeed in academic work. Among reporting first-time candidates, 49% indicated that they were in the 90th percentile or higher (compared to 56% in 1975), and 73% (compared to 79% in 1975) claimed to be in the top quarter. The Orientation Test was highly associated with credit earned on the examination as indicated by the following results; 38% of the first-time candidates in the 90th percentile or higher earned full credit, and another 38% earned partial credit. Among candidates below the 75th percentile, 14% earned full credit and 36% earned partial credit.

The AICPA Level II Test, unlike the other tests cited in this study, measures achievement rather than aptitude. This test is usually given in the senior year and covers the undergraduate accounting curriculum. Therefore, it is more closely related to grade point averages as a concept (a measure of previous performance rather than potential). Still, the Level II Test has the advantage of being a national examination.

Table 36 summarizes the May 1975 and May 1980 distribution of Level II percentiles for reporting candidates and summarizes performance for the 1980 candidates. This table is based upon both first-time and repeat candidates, in view of the small numbers reporting in each group. This table indicates some decline in candidate scores since 1975. Success rates generally increased with higher test performance, with the exception of the lowest percentile group which included a smaller number of candidates.

TABLE 36
SCORES ON AICPA LEVEL II ACHIEVEMENT TEST
FOR MAY CANDIDATES AND RELATIONSHIP
TO CREDIT EARNED

	<i>Percentage of Candidates</i>		<i>Percentage of 1980 Candidates Earning</i>		
	<i>1975</i>	<i>1980</i>	<i>No Credit</i>	<i>Partial Credit</i>	<i>All Credit Needed</i>
90 to 99 percentile	37%	35%	25%	33%	42%
75 to 89 percentile	33	36	41	32	27
50 to 74 percentile	21	19	53	28	19
25 to 49 percentile	7	5	65	23	12
0 to 24 percentile	2	5	56	21	23

The Level II examination is normed; thus 10% of participants should fall in the 90 to 99 percentile, etc. Again CPA Examination candidates compare favorably to the general population of Level II participants, subject to the previous cautions as to potential overreporting by examination candidates.

Table 37 presents simple correlation coefficients for the examinations discussed above and the four CPA Examination sections. In general, verbal scores were more highly associated with auditing, theory, and business law; higher mathematics (or quantitative) scores were associated with better performance in practice. Given the content of these section examinations, the observed relationships were as expected. The Level II Achievement Test showed the highest correlations, particularly for theory and practice. This result confirmed the strong relationship between this test and the accounting knowledge attained in the undergraduate curriculum.

TABLE 37
CORRELATIONS BETWEEN TEST SCORES AND
SCORES ON INDIVIDUAL SECTIONS
FOR FIRST-TIME MAY 1980 CANDIDATES

	<i>Accounting Practice</i>	<i>Accounting Theory</i>	<i>Auditing</i>	<i>Business Law</i>
SAT verbal	.18*	.22*	.25*	.25*
SAT mathematics	.30*	.25*	.22*	.24*
ACT verbal	.22*	.23*	.28*	.20*
ACT mathematics	.38*	.31*	.27*	.27*
GRE verbal	.27*	.33*	.26*	.25*
GRE quantitative	.28*	.22*	.17	.17
GMAT verbal	.30*	.35*	.25*	.30*
GMAT quantitative	.32*	.32*	.24*	.27*
AICPA orientation	.24*	.18*	.18*	.33*
AICPA Level II	.45*	.42*	.32*	.30*

*Statistically significant at 1% level

The pattern of correlations for repeat candidates was similar to that presented in Table 37, but coefficients were not as high, perhaps in part because repeat candidates may have been less likely to remember their scores and report them correctly. As an example of these differences, the correlations for SAT scores and individual section examination scores for May 1980 repeat candidates were as follows:

	<i>SAT Verbal</i>	<i>SAT Mathematics</i>
Accounting practice	.06	.11
Accounting theory	.09	.10
Auditing	.12	.10
Business law	.10	.09

VI. CPA COACHING COURSES

CPA coaching courses grew rapidly through the 1960's and early 1970's. They peaked in 1975 when over half of first-time candidates and two-thirds of repeat candidates reported that they had enrolled in some sort of course. In view of the increasing importance of these courses, candidates were asked for the first time in 1980 to identify the specific examination sections for which they had coaching course preparation and the range of classroom hours they devoted to each section.

Extent of Coaching Course Preparation By Type of Course and Section

Participation of first-time candidates in coaching courses increased in 1980, but there was a decline for repeat candidates. The latter was surprising and not completely explained, although the increase in availability and marketing of self-study books and courses may be a factor. The observed decline also may have been a result of changes in the design of the questionnaire. In 1975 candidates were asked to indicate whether they had a coaching course, but the course was not associated with a specific examination section. If a 1975 candidate indicated a coaching course that applied to a section which he/she had already passed, the course still would have been counted; it would not have been in 1980. The decline, therefore, must be viewed with some skepticism. Regardless of whether or not there has been a decline in coaching courses enrollment, these courses remain important since they are elected by over one-half of the candidates preparing for the CPA Examination.

Table 38 shows that a decline occurred in non-credit college courses. To some extent, this too may be a correction of prior year reporting. Candidates were instructed, both in 1980 and prior USIQ studies, to report college courses for credit in the "hours of accounting" section. However, this result may have been more obvious in 1980, when a specific "CPA coaching course" category was included under hours of accounting. In Section III, 28% of first-time candidates reported taking a CPA review course for credit.

Participation in staff coaching courses also declined in 1980. The biggest category, proprietary courses, had large gains among first-time candidates and only slight losses for repeat candidates. Correspondence courses rebounded from their decline in 1975.

**TABLE 38
HISTORICAL COMPARISON OF PARTICIPATION
IN CPA COACHING COURSES BY TYPE**

	<i>First-Time Candidates</i>			<i>Repeat Candidates</i>		
	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>1970</i>	<i>1975</i>	<i>1980</i>
Proprietary		25%	35%		40%	37%
College		25	19		18	9
Proprietary and College*	35%	50%	54%	40%	58%	46%
Staff	4	2	1	7	5	2
Correspondence	2	1	2	7	4	6
No course	59	47	43	46	33	46
	100%	100%	100%	100%	100%	100%

*Proprietary and college courses were combined in 1970.

The request for specific information about the type of coaching course by section was premised on an expectation that more candidates would seek coaching help in specific sections, most probably business law. Table 39 indicates that by and large there is a consistency among the examination sections, regardless of the type of coaching course taken.

TABLE 39
TYPE OF CPA COACHING COURSE
BY EXAMINATION SECTION
FOR MAY 1980 CANDIDATES

	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
— First-Time Candidates —				
Proprietary	32%	33%	32%	33%
College	18	17	16	16
Staff	1	1	1	1
Correspondence	2	2	2	2
No course	47	47	49	48
— Repeat Candidates —				
Proprietary	34%	32%	30%	32%
College	9	8	8	8
Staff	2	2	2	2
Correspondence	5	6	6	5
No course	50	52	54	53

Hours of Classroom Coaching Course Preparation

Table 40 summarizes classroom hours for CPA coaching courses and shows the variations in the classroom hours devoted to each examination section. Candidates spent the fewest classroom hours in business law courses, followed by auditing, accounting theory, and accounting practice. The median number of hours (for first-time candidates reporting classroom hours) was midway between 16 and 35 for business law, close to 35 for auditing, slightly above 36 for theory, and closer to 55 than 36 for practice.

TABLE 40
CLASSROOM HOURS OF CPA COACHING
BY EXAMINATION SECTION
FOR MAY 1980 CANDIDATES

	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
— First-Time Candidates —				
1 to 15 hours	15%	22%	27%	23%
16 to 35 hours	21	26	28	56
36 to 55 hours	22	42	40	16
Over 55 hours	42	10	5	5
— Repeat Candidates —				
1 to 15 hours	12%	17%	23%	22%
16 to 35 hours	17	28	32	55
36 to 55 hours	25	40	36	16
Over 55 hours	46	15	9	7

Relationship of Coaching Course Preparation to Examination Performance

Table 41 shows that coaching courses aid the candidates to perform better on the CPA Examination regardless of the section involved and the type of course undertaken. In all cases candidates with coaching courses had better success ratios than those without.

Coaching courses did vary in effectiveness by section. Proprietary course candidates had the strongest overall success rate, but the college coaching courses were slightly superior in accounting theory, and staff course candidates were slightly superior in accounting practice. Both the staff courses and the college courses were relatively inferior in auditing. Correspondence courses contributed strongly to success in both auditing and business law but made a smaller impact on theory and practice.

Classroom hours of coaching also were positively associated with examination performance. The simple correlation coefficients (all statistically significant at the 1% level) by examination section were:

	<u>First-Time Candidates</u>	<u>Repeat Candidates</u>
Accounting practice	.16	.15
Accounting theory	.13	.10
Auditing	.15	.09
Business law	.15	.11

These relationships are further developed in the lower half of Table 41. In general this table indicates that examination performance improved as coaching course hours increased. With the exception of accounting practice, declining success rates occurred beyond 55 hours.

**TABLE 41
RELATIONSHIP OF TYPE OF CPA COACHING
COURSE AND CLASSROOM HOURS OF COACHING
TO EXAMINATION SUCCESS FOR MAY 1980 CANDIDATES**

	<u>Success Ratios</u>			
	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
Type of course—				
Proprietary	1.19	1.16	1.23	1.20
College	1.19	1.21	1.06	1.14
Staff	1.20	1.12	1.02	1.19
Correspondence	.99	.99	1.09	1.17
No course	.89	.91	.94	.91
Classroom hours of coaching—				
None	.87	.88	.91	.90
1 to 15	.99	1.15	1.03	1.06
16 to 35	1.15	1.23	1.20	1.24
36 to 55	1.23	1.23	1.28	1.28
Over 55	1.28	1.22	.98	1.04

While CPA coaching courses still contributed to candidate success, their relative influence was not as great as it was in 1970. This is demonstrated in Table 42, which shows a decline in the percentage of coaching course candidates earning full or partial credit; candidates without coaching courses showed little or no change. To some extent the success of coaching courses may have led to their relative decline; in 1970 they were elected by the highly-motivated candidates; in 1975 and 1980 their previous success record led to enrollment of more marginal candidates.

Another noteworthy aspect of Table 42 is the resurgence of correspondence courses, which were extremely ineffective in 1975. In 1980, as in 1975, correspondence courses were much more successful for first-timers than repeat candidates. There is no obvious explanation for this phenomenon. College courses have less relative benefit to repeat candidates than first-timers, most likely because of greater time lapse between the coaching course and the examination.

TABLE 42
HISTORICAL COMPARISON OF CREDIT EARNED
BY TYPE OF CPA COACHING COURSE

	<i>Percentage of Candidates Earning Full or Partial Credit</i>					
	<i>First-Time</i>			<i>Repeat</i>		
	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>
Proprietary		49%	48%		51%	53%
College		47	49		47	48
Proprietary and College*	53%			58%		
Staff	54	51	47	62	48	50
Correspondence	38	24	38	40	38	52
No course	37	38	38	48	44	48

*Proprietary and college courses were combined in 1970.

VII. INDEPENDENT STUDY

Hours of independent study has long been an unknown influence in assessing candidate performance. Obviously, the more time spent in preparing for the examination the better one's performance should be, provided the time is spent wisely (and other factors, e.g., grade point averages) are held constant.

In requesting candidates to indicate hours of independent study per section in 1980, it was recognized that this was an area subject to misreporting, not only intentionally in some cases, but also because of the need for estimation by the candidate. However, its importance justified an attempt to gather data.

As with hours of CPA coaching, independent study varied by examination section. The least amount of study was devoted to business law while accounting practice received the most. Auditing and accounting theory were nearly equal. For each of the four sections the median hours of preparation lay in the 16 to 35 hour range.

An interesting result was the number of candidates (approaching 10% for each section) who claimed they did nothing in the way of independent study. Whether this represents honest ill-preparedness or mere bravado, the candidates involved were very unsuccessful in all sections. Their success ratios as a group were about one-third those of the average candidate.

The success ratios by examination section are shown in Table 43. Unlike hours of classroom CPA coaching courses, which decreased in effectiveness in the top hour range, additional hours of independent study continued to contribute to examination performance in all the successive categories. The results in 1980 certainly fulfilled the expectation that independent study would be one of the most prominent contributors to examination success.

TABLE 43
HOURS OF INDEPENDENT STUDY BY
EXAMINATION SECTION AND RELATIONSHIP
TO EXAMINATION SUCCESS
FOR MAY 1980 CANDIDATES

	<u>Accounting Practice</u>	<u>Accounting Theory</u>	<u>Auditing</u>	<u>Business Law</u>
— Percentage of First-Time Candidates —				
No hours	10%	10%	8%	10%
1 to 15 hours	25	31	32	37
16 to 35 hours	23	26	30	28
36 to 55 hours	18	17	17	14
Over 55 hours	24	16	13	11
— Percentage of Repeat Candidates —				
No hours	9%	10%	8%	9%
1 to 15 hours	24	30	30	32
16 to 35 hours	22	26	28	28
36 to 55 hours	17	16	17	16
Over 55 hours	28	18	17	15
— Success Ratios —				
No hours	.32	.37	.34	.32
1 to 15 hours	.52	.68	.62	.67
16 to 35 hours	.96	1.08	1.12	1.19
36 to 55 hours	1.32	1.38	1.45	1.46
Over 55 hours	1.60	1.57	1.57	1.61

The correlation coefficients relating hours of independent study to scores on individual examination sections (all statistically significant at the 1% level) are as follows:

	<i>First-Time Candidates</i>	<i>Repeat Candidates</i>
Accounting practice	.39	.35
Accounting theory	.33	.30
Auditing	.31	.29
Business law	.32	.31

VIII. ACCOUNTING AS A CAREER CHOICE

Since 1970 candidates have been asked a series of questions related to factors and motivations in choosing their accounting careers. These questions do not provide in themselves much evidence of CPA Examination performance and success, but they do offer interesting insights into the changing nature of candidates.

Timing of Decision to Major in Accounting

In 1975, candidates were entering the accounting field later in their academic careers. This trend reversed itself in 1980, particularly with respect to candidates attracted during high school. However, the percentage of candidates switching into accounting after the bachelor's degree remained near the 1975 level—historically these individuals have performed well on the CPA Examination.

In general, the later the candidate chose to major in accounting, the better his/her chances to be a successful candidate; differences were slight, however, before the post-bachelor's level. Particularly encouraging in the 1980 results was the improved performance of students attracted at the high school level; 40% of these candidates earned some credit in 1980, compared to 36% in 1975. This result may be evidence that opportunities in the profession are becoming known among talented high school students.

TABLE 44
TIMING OF DECISION TO MAJOR IN ACCOUNTING
FOR FIRST-TIME MAY CANDIDATES AND
RELATIONSHIP TO CREDIT EARNED

	<i>Percentage of Candidates</i>			<i>Percentage of 1980 Candidates Earning</i>		
	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>No Credit</i>	<i>Partial Credit</i>	<i>Full Credit</i>
In high school or earlier	29%	23%	34%	60%	27%	13%
First two years of college	54	49	42	59	27	14
Latter two years of college	13	15	12	56	30	14
After bachelor's degree	4	13	12	42	33	25

Career Choice as a College Freshman

The pattern of career choice as a college freshman was consistent with the observation of an earlier decision to major in accounting made in the previous section. After a decline in 1975, the percentage of candidates who chose an accounting career as freshmen rebounded to 42%. The only other category to increase was "other"—one source here may have been prospective teachers who reoriented their careers toward accounting. The principal declines were in the engineering and mathematics categories—as a percentage they were only half as popular as they were in 1975. Increased demand for engineers probably has caused at least part of this decline.

As in prior years, the performance of former engineering, mathematics, and liberal arts students remained quite high on the CPA Examination. However, the relative performances of the accounting and business administration students improved—in 1975 only 37% of the former group and 38% of the latter earned full or partial credit for the examination. These percentages rose to 40% and 43%, respectively, in 1980. Again this may be evidence that students of greater competence are being attracted earlier to the accounting profession.

TABLE 45
CAREER CHOICE AS A COLLEGE FRESHMAN FOR
FIRST-TIME MAY CANDIDATES AND
RELATIONSHIP TO CREDIT EARNED

	<i>Percentage of Candidates</i>			<i>Percentage of 1980 Candidates Earning</i>		
	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>No Credit</i>	<i>Partial Credit</i>	<i>All Credit Needed</i>
Accounting	41%	35%	42%	60%	27%	13%
Business administration	15	16	13	57	27	16
Engineering	12	11	5	52	30	18
Mathematics	5	9	5	50	30	20
Other liberal arts	6	9	9	50	31	19
Undecided	13	15	15	55	28	17
Other	8	5	11	56	29	15

Most Influential Factor in Career Choice

Table 46 indicates that more 1980 candidates were guided into an accounting career by their parents and high school instructors and fewer by their introductory college accounting courses and college instructors. This change in emphasis was consistent with the earlier decision to major in accounting. However, the two groups (college instructors and introductory accounting courses) which declined in influence historically have produced the most successful candidates among first-timers.

This table also indicates a steady decline in number of candidates who were directed into accounting by guidance counselors at the high school and college levels and a relatively poor performance by these candidates so guided. It would appear that guidance counselors at both levels need to be more attuned to the requirements and opportunities of the accounting profession. It should be recognized, however, that high school instructors are playing an increased role in advising, and that the candidates attracted from these sources, which may include mathematics instructors, tend to be more successful.

TABLE 46
MOST INFLUENTIAL FACTOR IN CAREER CHOICE FOR
FIRST-TIME MAY CANDIDATES AND
RELATIONSHIP TO CREDIT EARNED

	<i>Percentage of Candidates</i>			<i>Percentage of 1980 Candidates Earning</i>		
	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>No Credit</i>	<i>Partial Credit</i>	<i>All Credit Needed</i>
Parent	8%	9%	13%	60%	27%	13%
High school counselor	2	1	1	64	25	11
High school instructor	6	5	7	60	27	13
Friend or relative	16	17	16	60	27	13
College counselor	3	2	1	69	23	8
College instructor	9	8	6	54	30	16
College accounting course	22	24	18	53	30	17
Other	34	34	38	55	29	16

Characteristics Important in a Career Choice

Candidates again were asked in 1980 to choose one or more characteristics that they considered important in making a career choice. Candidates have never been limited in the number of characteristics they may choose, but over the past ten years the average number cited has declined from an average of four characteristics to an average of three characteristics. Therefore, Table 47 was designed to indicate the relative number (as a percentage) of the total characteristics listed. For example, the most popular choice, opportunity for above-average compensation, increased from 20% in 1970 to 22% in 1980. However, the number of candidates citing pay as an incentive declined during this period from 80% to 67%. The difference in presentation, as noted, is attributable to the decline in the average number of characteristics cited. The fourth column of Table 47 shows the actual percentage of candidates who cited a particular characteristic in 1980.

Candidates continued a trend towards choosing accounting as a "conservative" profession where there is "opportunity for moderate steady progress rather than extreme success or failure." This was the only category that increased in both 1975 and 1980. Opportunities for leadership and creativity were the only characteristics to decline. These two characteristics (together with living and working in the world of ideas, which also declined slightly) are associated with the greatest amount of credit earned on the CPA Examination. Moderate steady progress, as in 1975, was the only category to fall substantially below the characteristics associated with credit earned.

TABLE 47
CHARACTERISTICS IMPORTANT IN A CAREER CHOICE FOR
FIRST-TIME CANDIDATES AND
RELATIONSHIP TO CREDIT EARNED

	<i>Percentage of</i>			<i>1980 Candidates</i>	
	<i>Total Citations</i>			<i>Percentage</i>	<i>Partial or</i>
	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>Responding</i>	<i>Full Credit</i>
Opportunity for above-average compensation	20%	20%	22%	67%	44%
Opportunity to work with people rather than things	15	15	15	46	44
A chance to exercise leadership	16	14	15	45	45
Opportunity to be helpful to others or useful to society	14	14	13	39	43
Opportunity for moderate steady progress rather than extreme success or failure	7	9	10	29	39
Living and working in the world of ideas	10	10	10	29	46
Opportunity to be original and creative	11	10	8	25	45
Freedom from supervision in work	7	8	8	24	44

IX. OTHER SIGNIFICANT RELATIONSHIPS AND COMPARISONS

Relationships Among Scores on Individual Sections

Success on one examination section tends to predict success on other sections. The simple correlation coefficients presented in Table 48 show that relationships were (1) strongest between accounting practice and accounting theory, (2) weakest between business law and the other sections, particularly accounting practice, and (3) relatively strong between auditing and theory but relatively weak between auditing and accounting practice. All of the correlations exceeded .6 and thus are relatively high. The correlations for repeat candidates followed a similar pattern but were somewhat lower.

TABLE 48
CORRELATIONS AMONG SCORES ACHIEVED BY
FIRST-TIME CANDIDATES ON MAY 1980 EXAMINATION SECTIONS

	<i>Accounting Practice</i>	<i>Accounting Theory</i>	<i>Auditing</i>	<i>Business Law</i>
Accounting practice	1.00	.83	.64	.65
Accounting theory		1.00	.71	.65
Auditing			1.00	.64
Business law				1.00

All relationships are significant at the 1% level.

Table 49 shows the relationship among passing scores on examination sections and the amount of credit earned by candidates. For example, if a candidate passed auditing, he/she also passed accounting theory 85% of the time, business law 71% of the time, and accounting practice 74% of the time. Successful auditing candidates earned full credit for the four sections 55% of the time and partial credit in 41% of the cases; 4% of these candidates received no credit because they failed to meet conditioning requirements. If a candidate passed any single examination section, then the odds were substantially better than .5 that he/she would pass another section.

In fact, with the exception of accounting theory, nearly half (or more than half for auditing) of the successful first-time candidates for a section earned full credit for the whole examination. Success on one examination section as a predictor of success on another section was a function of the correlation between the two section scores and the difficulty of the second section. Thus, 85% of the successful auditing candidates passed accounting theory, but only 59% of the successful accounting theory candidates passed auditing, because fewer candidates passed auditing than accounting theory in May 1980.

TABLE 49
RELATIONSHIP OF PASSING SCORES ON PARTICULAR
SECTIONS TO SCORES ON OTHER SECTIONS AND
CREDIT EARNED FOR FIRST-TIME MAY 1980 CANDIDATES

	<i>Examination Section Passed</i>			
	<i>Accounting Practice</i>	<i>Accounting Theory</i>	<i>Auditing</i>	<i>Business Law</i>
Chances of passing—				
Accounting practice	—	74%	74%	70%
Accounting theory	87%	—	85	78
Auditing	60	59	—	62
Business law	64	62	71	—
Credit earned—				
None	1%	9%	4%	10%
Partial	54	53	41	41
Full	45	38	55	49

Table 50 explores the relationship among failing scores on examination sections and the amount of credit earned by candidates. Only 7% of the candidates failing accounting theory earned passing scores in auditing, but 24% of those who failed auditing passed accounting theory. In general, Table 50 shows that a candidate who failed any examination section had less than a 25% chance to earn any credit.

TABLE 50
RELATIONSHIP OF FAILING SCORES
ON PARTICULAR SECTIONS TO
SCORES ON OTHER SECTIONS AND
CREDIT EARNED FOR FIRST-TIME
MAY 1980 CANDIDATES

	<i>Examination Section Failed</i>			
	<u><i>Accounting Practice</i></u>	<u><i>Accounting Theory</i></u>	<u><i>Auditing</i></u>	<u><i>Business Law</i></u>
Chances of passing—				
Accounting practice	—	8%	20%	19%
Accounting theory	17%	—	24	24
Auditing	12	7	—	13
Business law	16	13	17	—
Credit earned—				
None	85%	89%	77%	78%
Partial	15	11	23	22

Characteristics of First-Time and Repeat Candidates

The purpose of this section is to explore the characteristics of first-time and repeat candidates—to determine their similarities and differences and to identify the overlapping characteristics between these two groups.

Two types of first-time candidates do not sit again for the CPA Examination. First are those candidates who pass all four sections at the first sitting. These presumably are the ablest candidates, and the characteristics associated with their success would not be included to the same degree in the body of repeat candidates. On the other hand, there are first-timers who give up after their first try at the examination—on balance these probably are the weakest candidates, and the characteristics associated with their lack of success would also be excluded. Thus, one would expect a narrower range of abilities in the characteristics of repeat candidates—fewer individuals in the high groups and fewer in the low. There is no reason to believe that the average or typical repeat candidate will be either more or less qualified than the first-timer.

Two other factors may affect this comparison. First, candidates may acquire a characteristic, e.g., experience, between sittings. Second, and most important, candidates with superior characteristics may be more persistent in seeking the CPA certificate.

The major differences between first-time and repeat candidates were in years separated from academic training and extent of experience. Over one-third of first-time May candidates were still attending school, and only 25% were out a year or more. Of repeaters, 10% were attending school and 72% were separated from school more than a year. The amount of experience, by type and functional area, followed a similar pattern. (Relative experience for first-time and repeat candidates was presented in Section IV.) However, neither years separated from school nor work experience was strongly associated with examination performance.

A slightly larger percentage of repeat candidates (15%) had advanced academic degrees than first-timers (13.6%). It is somewhat difficult to interpret this statistic, since higher passing rates were associated with advanced degrees for both first-timers and repeaters. As previously suggested, this may indicate a decline in the number of new candidates with advanced degrees in 1980 as compared to the late 1970's. Alternatively, this may be evidence of the greater persistence of repeat candidates with advanced degrees or a tendency for repeat candidates to acquire advanced degrees after their initial sitting for the CPA Examination.

It is noteworthy that repeat candidates with advanced degrees did not have success ratios that were as high as first-time candidates with advanced degrees. A comparison, by section, for May 1980 follows:

	<u>First-timers</u>	<u>Repeaters</u>
Accounting practice	1.45	1.03
Accounting theory	1.55	.98
Auditing	1.39	1.21
Business law	1.43	1.20

These discrepancies are much wider than those observed for first-timers and repeat candidates in general (see discussion of Table 5). Thus, an advanced degree benefits its holders differentially. For first-time candidates, it is a significant advantage and often leads to earning full credit. Those advanced-degree holders who must repeat the examination have not benefited from advanced training to the same extent or else have offsetting weaknesses.

Compared with first-timers, repeat candidates were more likely to have attended a college of business or a school of accounting and less likely to have attended a community college or a liberal arts college. The expectation that the percentage of candidates at both ends of the distribution will drop out from the candidate population was confirmed by the fact that community college alumni had less success than average, and liberal arts candidates had more success than average on the examination. Lower-scoring candidates tend to drop out because they become discouraged and higher-scoring candidates drop out because they have successfully completed examination sections. This is also apparent in grade point averages, as indicated in Table 51. Candidates with high undergraduate averages were less likely to be represented among repeat candidates, presumably as a result of their greater initial examination success.

TABLE 51
UNDERGRADUATE GRADE POINT AVERAGES
FOR FIRST-TIME AND REPEAT MAY 1980
CANDIDATES

	<u>Overall</u>		<u>Accounting</u>	
	<u>First-Time</u>	<u>Repeat</u>	<u>First-Time</u>	<u>Repeat</u>
3.50 to 4.00	27%	19%	35%	27%
3.00 to 3.49	39	40	36	42
2.50 to 2.99	27	32	22	24
Under 2.50	7	9	7	7

A convincing demonstration of the differential persistence of undergraduate candidates in various accounting grade point average ranges is presented in Table 52. For purposes of this table a hypothetical distribution of repeat candidates was constructed, assuming that:

1. All first-time candidates failing the examination repeated it ten times (or until they passed, whichever came first).
2. The percentages of candidates completing the examination at any one sitting were consistent with those observed for first-time and repeat candidates in May 1980. (See Table 5.)

If the hypothesis is correct that weaker candidates drop out early from the candidate population, then the latter assumption (2) is conservative; it assumes that had the drop-out candidates remained, their completion percentage would equal that for the candidates who actually stayed.

The hypothetical distribution of repeat candidates is compared to the actual distribution in Table 52, and a “persistence ratio” is computed by dividing the hypothetical percentage into the actual percentage. The persistence ratio demonstrates that repeat candidates in the higher grade point average ranges are more likely to remain part of the candidate body than those in the lower grade point average ranges.

**TABLE 52
HYPOTHETICAL DISTRIBUTION OF REPEAT CANDIDATES
BY UNDERGRADUATE GRADE POINT AVERAGE
AND COMPARISON TO MAY 1980 DISTRIBUTION**

<u>Accounting GPA</u>	<u>Hypothetical Distribution</u>	<u>Actual Distribution</u>	<u>Persistence Ratio</u>
3.50 to 4.00	19%	27%	1.42
3.00 to 3.49	38	42	1.11
2.50 to 2.99	32	24	.75
Under 2.50	11	7	.64

Table 53 indicates that SAT test scores were another characteristic strongly associated with CPA Examination success. In general, the distribution of repeat candidates among the range of SAT verbal and mathematics scores followed a pattern: fewer candidates in the extreme SAT ranges (top and bottom categories) and more clustering in the middle SAT ranges. Slight increases for candidates below 500 verbal and 600 mathematics were not as great as one would expect, given the lower initial pass rates for those groups.

**TABLE 53
SAT SCORES FOR FIRST-TIME
AND REPEAT MAY 1980 CANDIDATES**

	<u>Percentage of Candidates</u>	
	<u>First-Time</u>	<u>Repeat</u>
Verbal score—		
700 to 800	2%	2%
600 to 699	20	17
500 to 599	43	43
400 to 499	28	32
200 to 399	7	6
Mathematics score—		
700 to 800	16%	12%
600 to 699	42	41
500 to 599	33	37
400 to 499	8	9
200 to 399	1	1

Repeat candidates were more likely to have had graduate training in accounting than first-timers (17.5% vs. 15%) and to have had more than 30 hours of accounting training (54% vs. 53%). Presumably these events occurred after the candidates' initial sitting for the examination. Specific areas where repeat candidates had slightly more training than first-timers included cost and managerial, governmental, and systems. First-time candidates were more likely to have had a CPA review course for credit (28% vs. 25%) and to have had at least three financial and theory courses (48% vs. 41%). Both of the latter were associated with examination success for first-time candidates (See Table 22).

First-time candidates also were more likely to have had a calculus course (74% vs. 70%). Rather than weighting the specific value of a calculus course per se, this indicates that successful first-time candidates tend to come from academic programs that require calculus. Differences among other non-accounting course requirements were minor.

While repeat candidates were less likely to have had a coaching course, their hours of classroom coaching (assuming participation in a course) were higher than first-timers. Moreover, repeat candidates generally devoted more hours of independent study to the examination sections for which they sat than first-timers. More detailed data are presented in Sections VI and VII.

This review has shown that repeat candidates are less likely to be top students, especially with respect to grade point averages and SAT scores. Those repeat candidates who are weaker students are less persistent and therefore more likely to drop out of the candidate population after early failures.

The distribution of repeat candidates, in terms of these performance measures, was more centralized, and the overall caliber of candidates was slightly lower than that of first-timers. Offsetting these characteristics, repeat candidates had more work experience, graduate training, semester hours of accounting, classroom hours of CPA coaching, and hours of independent study. They were also more serious about compensating for shortcomings.

The comparison of examination performance (presented in Section II) indicated higher success ratios for repeat candidates in auditing, near equal success ratios in business law, and lower success ratios in accounting theory and accounting practice. Even though the overall performance of repeat candidates on individual sections was slightly inferior to first-timers, repeaters were more likely to earn credit because they were less impacted by conditioning requirements.

Characteristics of May and November Candidates

In comparing May and November examination results, it is appropriate to consider the prevailing differences between the characteristics of the two groups. Past studies have shown these to be slight. This was reaffirmed in 1980.

A major difference is related to the time of sitting for the examination. Far fewer first-time November candidates (18%) than May candidates (35%) were still attending school. This counterbalanced the effects of an increased number of candidates who had been separated from school a year or less. (See Table 6.)

Considerably more first-time November candidates had work experience in public accounting. However, this observation did not apply to other types of experience, as demonstrated in Table 54. Candidates with private, governmental, and teaching experience were as likely to sit in May as in November and were less likely to sit within their first year separated from school.

The percentage of first-time candidates sitting within one year of graduation (shown in Table 6) increased from 40% in May 1980 to 54% in November 1980. Virtually all of these candidates appeared to be employed in public accounting immediately after graduation. This effect is demonstrated in the middle portion of Table 54 by the 15% increase in November (over May) in candidates with less than one year's experience. There were also more first-time candidates in the "1 to 3" and "4 to 6" years of experience in public accounting categories; this presumably occurred because most candidates experienced their employment anniversaries between May and November.

As experience in general increases, the percentage of candidates claiming experience in specific functional areas also increases. This trend is indicated in the lower portion of Table 54. The greater amount of experience in auditing and taxes can be attributed to the large percentage of first-timers employed in public accounting. Candidates with experience in private accounting, governmental accounting, and teaching did not sit for the examination immediately after graduation. These candidates did not follow the experience pattern of candidates in public accounting, and there was relatively little difference in duration of their employment experience between May and November candidates. A similar conclusion applies to all repeat candidates, as demonstrated in the right-hand section of Table 54.

The relative pattern of experience for May and November candidates is interesting but it has little implication for examination performance. As noted earlier, the degree of experience is not strongly associated with success on the examination.

**TABLE 54
WORK EXPERIENCE FOR FIRST-TIME AND
REPEAT CANDIDATES FOR MAY AND NOVEMBER 1980**

	<i>First-Time Candidates</i>		<i>Repeat Candidates</i>	
	<i>May</i>	<i>November</i>	<i>May</i>	<i>November</i>
Candidates indicating some experience in—				
Public accounting	38%	59%	73%	74%
Private accounting	34	35	41	41
Governmental accounting	13	11	15	14
Teaching accounting full time	5	5	5	5
Duration of experience in public accounting—				
None	62%	41%	27%	26%
Less than 1 year	29	44	22	19
1 to 3 years	7	12	39	41
4 to 6 years	1	2	7	8
Over 6 years	1	1	5	6
Candidates indicating some experience in—				
Auditing	36%	55%	74%	71%
Tax	26	36	53	53
MAS	4	6	11	12
Other	37	40	43	43

As noted in Section II, the percentage of first-time candidates declined from 36% in May to 32% in November. Declines were also observed in 1975 and 1970. There was no major change in the pattern of previous sittings for November 1980 candidates, but fewer repeat candidates (43.7% vs. 45.2%) had previous conditional credit for two or more sections.

A significant difference between May and November 1980 was the increased number of candidates with law degrees at the latter date— 7.5% of the total candidate body versus 5.3% in May. This may have arisen in part from the need to complete law school requirements in the spring (there were twice as many first-time law candidates in November), but this result more likely occurred from the impact of tax season on the ability to prepare for the examination. There were other minor changes in the composition of the candidate body with advanced degrees, but the overall percentage of candidates with these degrees was nearly the same.

May first-time candidates were more likely to have attended schools accredited by the AACSB (55.4% to 52.6% for those with undergraduate degrees and 62.4% to 60.5% for those with graduate). Results were inconclusive for other “quality indicators,” such as SAT scores and grade point averages, as shown in Tables 55 and 56. The only difference of any substance was the lower graduate grade point average for November candidates. Differences in both SAT scores and grade point averages were minor for repeat candidates.

**TABLE 55
SAT SCORES FOR FIRST-TIME
MAY AND NOVEMBER 1980 CANDIDATES**

	<i>Verbal</i>		<i>Mathematics</i>	
	<i>May</i>	<i>November</i>	<i>May</i>	<i>November</i>
700 to 800	2%	3%	16%	16%
600 to 699	20	19	42	42
500 to 599	43	43	33	34
400 to 499	28	30	8	7
200 to 399	7	5	1	1

**TABLE 56
OVERALL GRADE POINT AVERAGES FOR FIRST-TIME
MAY AND NOVEMBER 1980 CANDIDATES**

	<i>Undergraduate</i>		<i>Graduate</i>	
	<i>May</i>	<i>November</i>	<i>May</i>	<i>November</i>
3.50 to 4.00	27%	27%	44%	40%
3.00 to 3.49	39	40	44	47
2.50 to 2.99	27	26	9	10
Under 2.50	7	7	3	3

May candidates were likely to have had slightly more accounting training; 54% of first-timers had over 30 semester hours, compared to 51.5% in November. In particular, May first-timers were more likely (28% to 17%) to have had a college CPA coaching course for credit. Offsetting this, November first-timers were more likely to have had a non-credit coaching course (64% vs. 58% for May). This particular characteristic also applied to repeat candidates; 59% of the November candidates had coaching courses, compared to 54% in May. Apparently such courses are more likely to be taken when candidates have left school and are in the less-busy summer and fall seasons. November candidates also engaged in slightly more independent study, an average of ½ hour more per section. None of these characteristics (or any of those previously mentioned) are believed to have a major effect on examination performance.

The relative performance of first-time and repeat candidates in November was consistent with that observed for May. (See Tables 4 and 5.) First-time November candidates continued to excel in accounting theory and accounting practice and repeat candidates in auditing, with virtually no difference in business law. There was an overall improvement in auditing scores in November; other sections changed only slightly.

X. CONCLUSION

Over the years the USIQ study has proved valuable to educators, regulators, and members of the profession in helping to understand the nature and qualifications of candidates who sit for the CPA Examination. The 1980 study has contributed to this tradition in its introduction of a number of new variables: nature of educational institution, hours of specific accounting courses, areas of experience, coaching courses, and independent study.

In the 1975 study two major trends were identified: (1) the tendency of candidates to take the examination earlier in their careers with less work experience; and (2) the increasing incidence of advanced degree candidates. The former trend continued in 1980, but the latter did not. Given the profession's avowed need for advanced training for its entrants, this development is perhaps the most important and disturbing observation of this study.

Prior to this study four important characteristics had been identified as correlating with and presumably contributing to a candidate's success on the examination. These were level of education (particularly graduate training), grade point averages, scores on aptitude and accounting achievement tests, and participation in CPA coaching courses. All of these variables were reaffirmed as important indicators of examination success in 1980. The 1980 USIQ indicated that a fifth variable, hours of independent study, was an additional factor linked to examination success.

APPENDIX

UNIFORM STATISTICAL INFORMATION QUESTIONNAIRE NOVEMBER 1980
 (Carefully read Instruction Booklet while filling out this questionnaire)

Side 1

1	CANDIDATE NUMBER	2 AICPA Orientation Test Percentile, Total test 0 0 1/1 2 2 3 3 1 1 4 4 2 2 3 3 1 1 5 5 3 3 3 3 1 1 1 1 6 6 4 4 4 4 2 2 2 2 7 7 5 5 5 5 3 3 3 3 1 1 1 1 8 8 6 6 6 6 4 4 4 4 3 3 3 3 1 1 1 1 9 9 7 7 7 7 7 7 5 5 5 5 3 3 3 3 1 1 1 1 1 1	3 AICPA Achievement Test, Level II, Percentile 0 0 0 0 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 1 1 1 1 4 4 4 4 4 4 4 4 2 2 2 2 5 5 5 5 5 5 5 5 3 3 3 3 1 1 1 1 6 6 6 6 6 6 6 6 4 4 4 4 3 3 3 3 1 1 1 1 7 7 7 7 7 7 7 7 5 5 5 5 3 3 3 3 1 1 1 1 1 1 8 8 8 8 8 8 8 8 6 6 6 6 4 4 4 4 3 3 3 3 1 1 1 1 9 9 9 9 9 9 9 9 7 7 7 7 5 5 5 5 3 3 3 3 1 1 1 1 1 1	4 College Board (SAT) or American College Tests (ACT) verbal score 0 0 0 0 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 1 1 1 1 4 4 4 4 4 4 4 4 2 2 2 2 5 5 5 5 5 5 5 5 3 3 3 3 1 1 1 1 6 6 6 6 6 6 6 6 4 4 4 4 3 3 3 3 1 1 1 1 7 7 7 7 7 7 7 7 5 5 5 5 3 3 3 3 1 1 1 1 1 1 8 8 8 8 8 8 8 8 6 6 6 6 4 4 4 4 3 3 3 3 1 1 1 1 9 9 9 9 9 9 9 9 7 7 7 7 5 5 5 5 3 3 3 3 1 1 1 1 1 1	5 College Board (SAT) or American College Tests (ACT) math score 0 0 0 0 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 1 1 1 1 4 4 4 4 4 4 4 4 2 2 2 2 5 5 5 5 5 5 5 5 3 3 3 3 1 1 1 1 6 6 6 6 6 6 6 6 4 4 4 4 3 3 3 3 1 1 1 1 7 7 7 7 7 7 7 7 5 5 5 5 3 3 3 3 1 1 1 1 1 1 8 8 8 8 8 8 8 8 6 6 6 6 4 4 4 4 3 3 3 3 1 1 1 1 9 9 9 9 9 9 9 9 7 7 7 7 5 5 5 5 3 3 3 3 1 1 1 1 1 1	6 GRE or GMAT quantitative score 0 0 0 0 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7 8 8 8 8 9 9 9 9	7 GRE or GMAT verbal score 0 0 0 0 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7 8 8 8 8 9 9 9 9	8 Is this your first sitting for Auditing (Y) (N) No Business Law (Y) (N) Accounting Theory (Y) (N) Accounting Practice (Y) (N)	9 If this is not your first sitting, how many previous sittings have you had for Auditing (1) (2) (3) (4) (5) (6+) Business Law (1) (2) (3) (4) (5) (6+) Accounting Theory (1) (2) (3) (4) (5) (6+) Accounting Practice (1) (2) (3) (4) (5) (6+)	10 For what subject(s) do you now have conditional credit? Auditing () () Business Law () () Accounting Theory () () Accounting Practice () ()	11 Highest level of education attained (or to be attained within 60 days) Post graduate degree () () Bachelor degree () () Less than Bachelor degree () ()	12 Did you obtain all or a portion of your education in one or more of the following ways: College of Business () () School of Professional Accounting () () Liberal Arts or Non-Business College () () Community (or Junior) College () () Proprietary School () ()	13 College Status or Separation Attending Undergrad. College (Y) (N) Attending Graduate College (Y) (N) Out of College: Less than 1 Yr. () () 1-2 Yrs. () () 3-5 Yrs. () () 6+ Yrs. () ()	14 Undergraduate major or other emphasis: Accounting () () Other Business () () Engineering () () Mathematics () () Other Liberal Arts () () Other () ()	15 College or University where major portion of accounting education completed: (see 5-digit code list contained in instructions). 0 0 0 0 0 0 1 1 1 1 1 1 2 2 2 2 2 2 3 3 3 3 3 3 4 4 4 4 4 4 5 5 5 5 5 5 6 6 6 6 6 6 7 7 7 7 7 7 8 8 8 8 8 8 9 9 9 9 9 9	16. Nature of postgraduate degree(s): Ph.D. or D.B.A. () () Masters of Accounting () () M.B.A. (emphasis in accounting) () () Other M.B.A. () () Non-Bus. Masters () () Law Degree () ()	17 Semester hours or equivalent of Accounting education: Introductory (Principles) Accounting () () Financial and Accounting Theory () () Auditing () () Tax () () Cost and Managerial Accounting () () Governmental Accounting () () International Accounting () () Systems () () CPA Problems () () Other Accounting () ()	18 Semester hours or equivalent hours of Pre-calculus Mathematics () () Calculus and Advanced Mathematics () () Statistics and/or probability () () Computer Science () () Business Law () ()	19 Academic Grade Point Average (where an A = 4.0, B = 3.0, etc.): Undergraduate Overall () () Graduate Overall () () Undergrad. Accounting Courses () () Graduate Accounting Courses () ()	20 Full-time Work Experience (in years) Public Accounting () () Private Accounting () () Governmental Accounting () () Teaching Accounting () ()	Less than 1 yr. () () 1-3 yrs. () () 4-6 yrs. () () 6+ yrs. () ()
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21 Nature of Work Experience (in years): Less than 1 yr. <input type="radio"/> 1-3 yrs. <input type="radio"/> 4-6 yrs. <input type="radio"/> 6+ yrs. <input type="radio"/> Auditing <input type="radio"/> Tax <input type="radio"/> MAS (Consulting) <input type="radio"/> Other <input type="radio"/>	22 Type of coaching course College Course <input type="radio"/> Auditing <input type="radio"/> Proprietary Course <input type="radio"/> Staff Course <input type="radio"/> Correspondence Course <input type="radio"/> None <input type="radio"/>
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23 Classroom hours of coaching course None <input type="radio"/> 1-15 hrs. <input type="radio"/> 16-35 hrs. <input type="radio"/> 36-55 hrs. <input type="radio"/> 56+ hrs. <input type="radio"/> Auditing <input type="radio"/> Business Law <input type="radio"/> Accounting Theory <input type="radio"/> Accounting Practice <input type="radio"/>	24 Independent (non classroom) study None <input type="radio"/> 1-15 hrs. <input type="radio"/> 16-35 hrs. <input type="radio"/> 36-55 hrs. <input type="radio"/> 56+ hrs. <input type="radio"/> Auditing <input type="radio"/> Business Law <input type="radio"/> Accounting Theory <input type="radio"/> Accounting Practice <input type="radio"/>
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25 Decision to Study Accounting In high school or earlier <input type="radio"/> Lower division college <input type="radio"/> Upper division college <input type="radio"/> After undergraduate degree <input type="radio"/>	26 Career Choice upon Entering College Accounting <input type="radio"/> Other Business <input type="radio"/> Mathematics <input type="radio"/> Engineering <input type="radio"/> Other Liberal Arts <input type="radio"/> Undecided <input type="radio"/> Other <input type="radio"/>	27 Most Influential Factor in Career Choice High School Counselor <input type="radio"/> High School Instructor <input type="radio"/> Parent <input type="radio"/> Friend or Relative <input type="radio"/> College Counselor <input type="radio"/> College Instructor <input type="radio"/> College Accounting Course <input type="radio"/> Other <input type="radio"/>
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28. Characteristics Important in Career Choice

NOTE: Participation in this project is voluntary. Your cooperation will be appreciated so that the AICPA and Boards of Accountancy will be able to statistically compare and correlate various characteristics e.g., education and experience, with performance on the CPA examination.

All information with respect to individual candidates will be kept strictly confidential by the AICPA and Boards of Accountancy who will be the only recipients of this information. Participation or nonparticipation will have no effect upon the grading of your Uniform CPA Examination papers or the issuance of a CPA certificate.

Opportunity for above average compensation
 Opportunity to be original and creative
 Opportunity to be helpful to others or useful to society
 Living and working in the world of ideas
 Freedom from supervision in your work
 A chance to exercise leadership
 Opportunity for moderate but steady progress rather than the chance of extreme success or failure
 Opportunity to work with people rather than things

UNIFORM STATISTICAL INFORMATION QUESTIONNAIRE - NOVEMBER 1980

INSTRUCTIONS TO THE CANDIDATE

INSTRUCTIONS TO THE CANDIDATE

Read these instructions carefully before filling out the questionnaire

Use a black soft-lead pencil (preferably No. 2) for filling out the questionnaire. Erase completely any marks you want to change. Make no stray marks on your answer sheet. DO NOT USE A BALL POINT PEN.

The information you give in the questionnaire should represent your status at the time of the November 1980 examination unless otherwise indicated in specific item instructions below.

This questionnaire should be completed prior to sitting for the Uniform CPA Examination. Since many Boards of Accountancy first assign candidate identification numbers when candidates appear for the examination, you may not be able to insert your candidate number until that time. In any event, the completed questionnaire (with candidate identification number) must be returned to your Board of Accountancy when you are at the examination site. Do not bend, fold, or mutilate it as this will interfere with the computer processing.

To preserve the anonymity of candidates during the grading of the CPA examination, the questionnaire will not be mailed to the AICPA until after the examination has been graded and the grades have been received by the Board of Accountancy.

Whenever a question calls for a numerical answer, write the number in the space provided and blacken the corresponding numerical circle below:

EXAMPLE: Candidate Number 9-87-6543

Space Provided

1 CANDIDATE NUMBER					
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

Correct Response

1 CANDIDATE NUMBER					
9	8	7	6	5	4
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

Whenever a question calls for selecting a printed response on the questionnaire, blacken the circle provided. Do not merely mark the circle or place an "X" in it.

EXAMPLES: WRONG WRONG WRONG RIGHT

1 ○ ● ○ ○ ○ 2 ○ ● ○ ○ ○ 3 ○ ○ ● ○ ○ 4 ○ ○ ○ ○ ●

SIDE 1 OF QUESTIONNAIRE

Item

- 1 Candidate number - You may not be assigned a candidate number at the time you receive this questionnaire. See the transmittal letter from the Board of Accountancy for instructions.
- 2 and 3 AICPA tests - These are the orientation and achievement tests that are given by many colleges and universities in connection with accounting courses and by many public accounting firms to prospective or new employees. If you took either the Orientation Test or Level II Achievement Test more than once enter the most recent score only. If you do not know or never took these tests leave these circles blank.
- 4 and 5 SAT or ACT tests - If you took either of these tests more than once, enter the most recent score only. If you took both SAT and ACT enter your SAT scores only. If you do not know or never took these tests leave the circles blank.
- 6 and 7 GRE or GMAT tests - If you took either of these tests more than once, enter the most recent score only. Blacken in the appropriate circle following the test (GRE or GMAT) scores recorded in 6 and 7. For example:
a) if GRE taken mark
 GRE ● or GMAT ○ Verbal Score
b) if GMAT taken mark
 GRE ○ or GMAT ● Quantitative Score
- If you took both GRE and GMAT enter your GMAT scores only. If you do not know or never took these tests leave the circles blank.
- 8 Is this your first sitting for a CPA Exam Subject?
- 9 If this is not your first sitting, how many previous sittings have you had - If your answer for 8 is no for any subject, complete this question.
- 10 Conditional credit - Mark spaces only if you have received conditional credit for one or more parts of the examination passed prior to November 1980 and your conditional credit has not expired.
- 11, 12, and 13 Educational background - If you are now attending school or college, your responses to these items should cover any courses to be completed within sixty days after the November 1980 examination and any degree that will be awarded to you within that period. Proprietary school refers to a privately operated, non-degree granting institution.
- 14 Undergraduate major - Mark only one.
- 15 College or university code - Use the 5 digit code number indicated on the alphabetical list of institutions granting degrees in management and business. (Note that the state is also listed to allow for ease of identification and coding.) Code the College or University where you received the major portion of your accounting education. If your college does not appear on this list use code 99999.
- 16 Postgraduate degree - Mark all that apply.

Item

17 and 18

Semester hours - Use the conventional college semester hour.

- a. Three hours in a college or university on a quarter basis may be considered equivalent to two semester hours. Five quarter hours may be considered equivalent to three and one third semester hours. (To convert from quarter hours to semester hours, multiply the quarter hours by two and divide the product by three.)
- b. Five assignments of a formal accounting correspondence course may be treated as one semester hour.

18 Semester hours or equivalent hours - Include both graduate and undergraduate hours earned in all of these categories. "Computer" courses should be understood to include courses in computers and information systems in business. Do not include programming courses and the like which are purely technical in nature.

19 Grade point average

20 Full time work experience - Mark as many circles as apply to you. If you have no work experience in accounting, make no response.

SIDE 2 OF QUESTIONNAIRE

21 Nature of work experience - Mark only if you have answered item 20. Mark as many circles as apply to you.

22 CPA coaching course preparation - List information only for those courses taken during 6 months prior to this exam. "College Course" refers only to a non-credit bearing CPA Review or Problems course. (College courses taken for credit should have been included in item 17.) "Proprietary Course" refers to a privately operated, attended review course for which no credits are granted. "Staff Course" should be understood to include any CPA coaching course given by the firm by which you are employed.

23 Classroom hours of coaching course - Estimate the number of formal classroom hours per subject spent in coaching courses for this examination.

24 Independent study - Estimate the number of independent (nonclassroom) study hours per subject spent in preparing for this examination.

25 Decision to study accounting - Mark only one.

26 Career choice upon entering college - Mark only one.

27 Most influential factor in career choice - Mark only one.

28 Characteristics important in career choice - Mark as many as apply.

NOTE:

Participation in this project is voluntary. Your cooperation will be appreciated so that the AICPA and Boards of Accountancy will be able to statistically compare and correlate various characteristics e.g., education and experience, with performance on the CPA examination.

All information with respect to individual candidates will be kept strictly confidential by the AICPA and Boards of Accountancy who will be the only recipients of this information.

Participation or nonparticipation will have no effect upon the grading of your Uniform CPA Examination papers or the issuance of a CPA certificate.

15. Code list for colleges and universities

03537	Abilene Chrstn University	Tex.	02336	Bemidji State U	Minn.
01345	Adams State College	Colo.	03420	Benedict College	S.C.
02666	Adelphi University	N.Y.	10256	Benedictine College	Kans.
29021	Adl Mgmt Ed Institute	Mass.	02911	Bennett College	N.C.
02234	Adrian College	Mich.	02124	Bentley College	Mass.
01627	Aero-Space Institute	Ill.	01955	Berea College	Ky.
03009	Air Force Inst Technology	Ohio	01554	Berry College	Ga.
03123	Akron Main Campus, U of	Ohio	01904	Bethany College	Kans.
01002	Alabama A & M University	Ala.	03149	Bethany Nazarene College	Okla.
01052	Alabama In Birmingham, U	Ala.	01787	Bethel College	Ind.
01055	Alabama In Huntsville, U	Ala.	03480	Bethel College	Tenn.
01005	Alabama State University	Ala.	09058	Bethel College	Minn.
01051	Alabama, The U of	Ala.	01467	Bethune Cookman College	Fla.
11462	Alas Anchorage Senior C,U	Alas.	01122	Biola College	Calif.
01063	Alaska Fairbanks, U of	Alas.	01012	Birmingham Sthn College	Ala.
01544	Albany State College	Ga.	01468	Biscayne College	Fla.
01374	Albertus Magnus College	Conn.	03548	Bishop College	Tex.
03229	Albright College	Pa.	03459	Black Hills State College	S.D.
02662	Albuquerque, University of	N.M.	02597	Bloomfield College	N.J.
02396	Alcorn State University	Miss.	03315	Bloomsburg State College	Pa.
03806	Alderson Broaddus College	W. Va.	02398	Blue Mountain College	Miss.
02668	Alfred University	N.Y.	03809	Bluefield State College	W. Va.
03230	Allegheny College	Pa.	03016	Bluffton College	Ohio
03417	Allen University	S.C.	03421	Bob Jones University	S.C.
03232	Alliance College	Pa.	01505	Boca Raton, College of	Fla.
02236	Alma College	Mich.	01616	Boise State University	Idaho
03233	Alvernia College	Pa.	02128	Boston College	Mass.
03832	Alverno College	Wis.	02182	Boston State College	Mass.
12448	Ambassador College	Calif.	02130	Boston University	Mass.
10310	Amer Christian College	Okla.	02062	Bowie State College	Md.
01070	Amer Grad Sch of Mgmt	Ariz.	03018	Bowling Grn St U Main Cam	Ohio
02114	American Intrnatl College	Mass.	01641	Bradley University	Ill.
11854	American Technological U	Tex.	01556	Brenau College	Ga.
01434	American University	D.C.	01958	Brescia College	Ky.
01785	Anderson College	Ind.	01846	Briar Cliff College	Iowa
02238	Andrews University	Mich.	01416	Bridgeport, University of	Conn.
03541	Angelo State University	Tex.	03704	Bridgewater College	Va.
02117	Anna Maria College	Mass.	03670	Brigham Young U Main Cam	Utah
01375	Annhurst College	Conn.	01606	Brigham Young U-Hawa Cam	Hawaii
05019	Antillian College	P.R.	03536	Bryan College	Tenn.
08795	Antioch College	Ohio	03402	Bryant College of Bus Adm	R.I.
02906	Appalachian St University	N.C.	03238	Bucknell University	Pa.
02239	Aquinas College	Mich.	01847	Buena Vista College	Iowa
01081	Arizona State University	Ariz.	01788	Butler University	Ind.
01083	Arizona, University of	Ariz.			
01101	Ark at Little Rock, U of	Ark.	01125	Cal Baptist College	Calif.
01088	Arkansas College	Ark.	01133	Cal Lutheran College	Calif.
01108	Arkansas Main Campus, U of	Ark.	01143	Cal Poly St U-Sn Luis Ob	Calif.
01086	Arkansas Pine Bluff, U of	Ark.	07993	Cal St College-Bakersfld	Calif.
01090	Arkansas State U Main Cam	Ark.	01157	Cal St College-Stanislaus	Calif.
01089	Arkansas Tech University	Ark.	01141	Cal State C-Dominguez Hls	Calif.
01085	Arkansas-Monticello, U of	Ark.	01142	Cal State C-Sn Bernardino	Calif.
01115	Armstrong College	Calif.	01156	Cal State College-Sonoma	Calif.
01546	Armstrong State College	Ga.	01144	Cal State Poly U-Pomona	Calif.
03012	Ashland College	Ohio	01146	Cal State U-Chico	Calif.
01008	Athens State College	Ala.	01147	Cal State U-Fresno	Calif.
01551	Atlanta University	Ga.	01137	Cal State U-Fullerton	Calif.
02908	Atlantic Christian C	N.C.	01138	Cal State U-Hayward	Calif.
02119	Atlantic Union College	Mass.	01139	Cal State U-Long Beach	Calif.
08310	Auburn U at Montgomery	Ala.	01140	Cal State U-Los Angeles	Calif.
01009	Auburn U Main Campus	Ala.	01153	Cal State U-Northridge	Calif.
02334	Augsburg College	Minn.	01150	Cal State U-Sacramento	Calif.
01552	Augusta College	Ga.	01312	Cal-Berkeley, U of	Calif.
01633	Augustana College	Ill.	01315	Cal-Los Angeles, U of	Calif.
03458	Augustana College	S.D.	01316	Cal-Riverside, U of	Calif.
01634	Aurora College	Ill.	01317	Cal-San Diego, U of	Calif.
03543	Austin College	Tex.	01320	Cal-Santa Barbara, U of	Calif.
03478	Austin Peay St University	Tenn.	02598	Caldwell College	N.J.
03702	Averett College	Va.	03316	California State College	Pa.
02449	Avila College	Mo.	01834	Calumet College	Ind.
01117	Azusa Pacific College	Calif.	02241	Calvin College	Mich.
			03150	Cameron University	Okla.
02121	Babson College	Mass.	02913	Campbell College	N.C.
01903	Baker University	Kans.	01959	Campbellsville College	Ky.
03014	Baldwin-Wallace College	Ohio	02681	Canisius College	N.Y.
01786	Ball State University	Ind.	03023	Capital University	Ohio
02102	Baltimore, University of	Md.	03303	Carlow College	Pa.
03419	Bapt College at Chastn	S.C.	03242	Carnegie-Mellon U	Pa.
01635	Barat College	Ill.	02526	Carrroll College	Mont.
02909	Barber-Scotia College	N.C.	03838	Carrroll College	Wis.
03400	Barrington College	R.I.	03481	Carson-Newman College	Tenn.
01466	Barry College	Fla.	03839	Carthage College	Wis.
03151	Bartlesville Wesleyan C	Okla.	03024	Case Western Reserve U	Ohio
10015	Bayamon Cen University	P.R.	03683	Castleton State College	Vt.
06967	Baylor University	Tex.	02914	Catawba College	N.C.
03235	Beaver College	Pa.	01437	Catholic U of America	D.C.
02397	Belhaven College	Miss.	03936	Catholic U Puerto Rico	P.R.
01954	Bellarmino College	Ky.	03243	Cedar Crest College	Pa.
09743	Bellevue College	Nebr.	03025	Cedarville College	Ohio
02910	Belmont Abbey College	N.C.	10306	Cen New Eng College Techn	Mass.
03479	Belmont College	Tenn.	02003	Centenary C of Louisiana	La.
			01092	Central Arkansas, U of	Ark.

15. Code list for colleges and universities

01378 Central Conn St College	Conn.	02544 Doane College	Nebr.
02453 Central Methodist College	Mo.	02713 Dominican C of Blauvelt	N.Y.
02243 Central Mich University	Mich.	01859 Dordt College	Iowa
02454 Central Mo St University	Mo.	02667 Dowling College	N.Y.
03152 Central State University	Okla.	01860 Drake University	Iowa
03026 Central State University	Ohio	03256 Drexel University	Pa.
01850 Central U of Iowa	Iowa	02461 Drury College	Mo.
03771 Central Wash St College	Wash.	01891 Dubuque, University of	Iowa
03422 Central Wesleyan College	S.C.	02920 Duke University	N.C.
02539 Chadron State College	Nebr.	03258 Duquesne University	Pa.
01605 Chaminade C of Honolulu	Hawaii	03043 Dyke College	Ohio
01164 Chapman Cqllege	Calif.		
03428 Charleston, College of	S.C.	02923 East Carolina University	N.C.
03244 Chatham College	Pa.	03154 East Central Okla State U	Okla.
03245 Chestnut Hill College	Pa.	03487 East Tenn St University	Tenn.
03317 Cheyney State College	Pa.	03564 East Texas Bapt College	Tex.
01694 Chicago State University	Ill.	03565 East Texas St University	Tex.
01774 Chicago, University of	Ill.	03259 Eastern College	Pa.
03482 Christian Bros College	Tenn.	01674 Eastern Ill University	Ill.
03706 Christopher Newport C	Va.	01963 Eastern Ky University	Ky.
03125 Cincinnati Main Cam, U of	Ohio	03708 Eastern Mennonite College	Va.
03423 Citadel Military C of SC	S.C.	02259 Eastern Mich University	Mich.
01170 Claremont Men's College	Calif.	02530 Eastern Montana College	Mont.
01169 Claremont U Ctr-Grad Ctr	Calif.	02145 Eastern Nazarene College	Mass.
09235 Clarion State C Main Cam	Pa.	02651 Eastern NM U Main Campus	N.M.
01559 Clark College	Ga.	03193 Eastern Oregon St College	Oreg.
02139 Clark University	Mass.	03775 Eastern Wash St College	Wash.
01852 Clarke College	Iowa	01487 Eckerd College	Fla.
02699 Clarkson College of Techn	N.Y.	03848 Edgewood College	Wis.
02246 Cleary College	Mich.	01478 Edward Waters College	Fla.
03425 Clemson University	S.C.	02926 Elizabeth City State U	N.C.
03032 Cleveland St University	Ohio	03262 Elizabethtown College	Pa.
01854 Coe College	Iowa	01676 Elmhurst College	Ill.
03427 Coker College	S.C.	02718 Elmira College	N.Y.
02039 Colby College	Maine	02927 Elon College	N.C.
02572 Colby-Sawyer College	N.H.	01479 Embry-Riddle Aeron U	Fla.
06740 Colo at Denver, U of	Colo.	03709 Emory and Henry College	Va.
04509 Colo Colo Springs, U of	Colo.	01564 Emory University	Ga.
01370 Colorado at Boulder, U of	Colo.	01927 Emporia Kansas State C	Kans.
01347 Colorado College	Colo.	03432 Erskine College	S.C.
01348 Colorado School of Mines	Colo.	01678 Eureka College	Ill.
01350 Colorado State University	Colo.	02463 Evangel College	Mo.
01351 Colorado Women's College	Colo.	01795 Evansville, University of	Ind.
03190 Columbia Christian C	Oreg.		
02456 Columbia College	Mo.	01385 Fairfield University	Conn.
03430 Columbia College	S.C.	03812 Fairmont State College	W. Va.
02707 Columbia U Main Division	N.Y.	04738 Farlgh Dcksn Madison Cam	N.J.
02067 Columbia Union College	Md.	02607 Farlgh Dcksn Teaneck Cam	N.J.
01561 Columbus College	Ga.	02604 Farlgh Dcksn U Rutherfd	N.J.
03810 Concord College	W. Va.	02928 Fayettevl St University	N.C.
02346 Concordia C at Moorhead	Minn.	07015 Federal City College	D.C.
02541 Concordia Tchrs College	Nebr.	02260 Ferris State College	Mich.
29013 Conn Main Campus, U of	Conn.	03045 Findlay College	Ohio
02711 Cornell U Endowed Colleges	N.Y.	03490 Fisk University	Tenn.
11693 Cornell U Statutory C	N.Y.	02184 Fitchburg State College	Mass.
03484 Covenant College	Ga.	01480 Fia Agricultural & Mech U	Fla.
02542 Creighton University	Nebr.	01481 Fla Atlantic University	Fla.
02460 Culver-Stockton College	Mo.	07893 Flagler College	Fla.
01962 Cumberland College	Ky.	01469 Florida Inst Technology	Fla.
04766 CUNY Bernard Baruch C	N.Y.	09635 Florida International U	Fla.
02687 CUNY Brooklyn College	N.Y.	01486 Florida Memorial College	Fla.
04063 CUNY Grad Sch & U Center	N.Y.	01488 Florida Southern College	Fla.
02689 CUNY Hunter College	N.Y.	01489 Florida State University	Fla.
07022 CUNY Lehman College	N.Y.	03954 Florida Technological U	Fla.
10097 CUNY Medgar Evers College	N.Y.	01535 Florida, University of	Fla.
02690 CUNY Queens College	N.Y.	02464 Fontbonne College	Mo.
02143 Curry College	Mass.	02722 Fordham University	N.Y.
		01915 Fort Hays Kans St College	Kans.
02712 D'Youville College	N.Y.	08146 Fort Lauderdale College	Fla.
02808 Daemen College	N.Y.	01353 Fort Lewis College	Colo.
03463 Dakota State College	S.D.	01566 Fort Valley State College	Ga.
03461 Dakota Wesleyan U	S.D.	09226 Francis Marion College	S.C.
03560 Dallas Baptist College	Tex.	03265 Franklin and Marshall C	Pa.
03651 Dallas, University of	Tex.	01798 Franklin College Indiana	Ind.
02543 Dana College	Nebr.	02575 Franklin Pierce College	N.H.
29037 Daniel Hale Williams U	Ill.	03046 Franklin University	Ohio
01014 Daniel Payne College	Ala.	03492 Freed-Bardeman College	Tenn.
02573 Dartmouth College	N.H.	01918 Friends University	Kans.
03486 David Lipscomb College	Tenn.	02072 Frostburg State College	Md.
03811 Davis and Elkins College	W. Va.	03434 Furman University	S.C.
03127 Dayton, University of	Ohio		
03041 Defiance College	Ohio	01569 Ga Inst of Techn Main Cam	Ga.
01428 Delaware State College	Del.	01573 Ga Southwestern College	Ga.
03252 Delaware Vly C Sci & Agr	Pa.	01443 Gallaudet College	D.C.
01431 Delaware, University of	Del.	03266 Gannon College	Pa.
02403 Delta State University	Miss.	02929 Gardner-Webb College	N.C.
01371 Denver, University of	Colo.	02262 General Motors Institute	Mich.
01671 DePaul University	Ill.	03267 Geneva College	Pa.
02253 Detroit College of Bus	Mich.	03194 George Fox College	Oreg.
02257 Detroit Inst Technology	Mich.	03749 George Mason University	Va.
02323 Detroit, University of	Mich.	01444 George Wash University	D.C.
02989 Dickinson State College	N.D.	01964 Georgetown College	Ky.
02004 Dillard University	La.	01445 Georgetown University	D.C.

15. Code list for colleges and universities

01602	Georgia College	Ga.	01495	Jacksonville University	Fla.
01572	Georgia Southern College	Ga.	01020	Jacksonvl St University	Ala.
01574	Georgia State University	Ga.	02990	Jamestown College	N.D.
01598	Georgia, University of	Ga.	03637	Jarvis Christian College	Tex.
03268	Gettysburg College	Pa.	01100	John Brown University	Ark.
02609	Glassboro State College	N.J.	03050	John Carroll University	Ohio
03813	Glenville State College	W. Va.	04484	John F Kennedy University	Calif.
03686	Goddard College	Vt.	02309	John Wesley College	Mich.
01205	Golden Gate University	Calif.	02077	Johns Hopkins University	Md.
03778	Gonzaga University	Wash.	02936	Johnson C Smith University	N.C.
02153	Gordon College	Mass.	03404	Johnson & Wales College	R.I.
01799	Goshen College	Ind.	03688	Johnson State College	Vt.
09145	Governors St University	Ill.	01497	Jones College Main Campus	Fla.
01800	Grace Theol Sem & College	Ind.	01499	Jones College Orlando Cam	Fla.
01866	Graceland College	Iowa	01023	Judson College	Ala.
02006	Grambling State U	La.	03279	Juniata College	Pa.
01074	Grand Canyon College	Ariz.			
02268	Grand Valley St Colleges	Mich.	01948	Kansas Main Campus, U of	Kans.
02527	Great Falls, College of	Mont.	01939	Kansas Newman College	Kans.
03687	Green Mountain College	Vt.	01926	Kansas St College Pittsbg	Kans.
02930	Greensboro College	N.C.	01928	Kansas St U Agr & App Sci	Kans.
01684	Greenville College	Ill.	01929	Kansas Wesleyan	Kans.
03269	Grove City College	Pa.	02622	Kean C of New Jersey	N.J.
03935	Guam, University of	Guam	02551	Kearney State College	Nebr.
02931	Guilford College	N. C.	03051	Kent State U Main Campus	Ohio
02353	Gustavus Adolphus College	Minn.	01968	Kentucky State University	Ky.
03270	Gwynedd-Mercy College	Pa.	01969	Kentucky Wesleyan College	Ky.
			01989	Kentucky, University of	Ky.
02354	Hamline University	Minn.	03496	King College	Tenn.
03714	Hampton Institute	Va.	02745	King's College	N.Y.
01801	Hanover College	Ind.	03282	King's College	Pa.
03571	Hardin-Simmons University	Tex.	03497	Knoxville College	Tenn.
10311	Harding College Main Cam	Ark.	03322	Kutztown State College	Pa.
02804	Hartford Graduate Center	Conn.			
01422	Hartford, University of	Conn.	01578	La Grange College	Ga.
02155	Harvard University	Mass.	03987	La Roche College	Pa.
02548	Hastings College	Nebr.	03287	La Salle College	Pa.
29020	Hawaii at Hilo, U of	Hawaii	02010	La State U and A&M C	La.
01610	Hawaii at Manoa, U of	Hawaii	02013	La State U Shreveport	La.
07279	Hawaii Pacific College	Hawaii	01216	La Verne College	Calif.
12257	Heed University	Fla.	02747	Ladycliff College	N.Y.
01098	Henderson St University	Ark.	03066	Lake Erie College	Ohio
01099	Hendrix College	Ark.	02293	Lake Superior St College	Mich.
02933	High Point College	N.C.	03854	Lakeland College	Wis.
02272	Hillsdale College	Mich.	03581	Lamar University	Tex.
02732	Hofstra University	N.Y.	03498	Lambuth College	Tenn.
03275	Holy Family College	Pa.	03435	Lander College	S.C.
01183	Holy Names College	Calif.	03499	Lane College	Tenn.
02273	Hope College	Mich.	03157	Langston University	Okla.
02734	Houghton College	N.Y.	02279	Lawrence Inst Technology	Mich.
03576	Houston Bapt University	Tex.	02748	Le Moyne College	N.Y.
11711	Houston Clear Lake City, U	Tex.	03501	Le Moyne-Owen College	Tenn.
03652	Houston Main Camp, U of	Tex.	03288	Lebanon Valley College	Pa.
13231	Houston Victoria Campus, U	Tex.	03289	Lehigh University	Pa.
03575	Howard Payne University	Tex.	02941	Lenoir-Rhyne College	N.C.
01448	Howard University	D.C.	03584	Letourneau College	Tex.
01149	Humboldt State U	Calif.	03197	Lewis and Clark College	Oreg.
01019	Huntingdon College	Ala.	01707	Lewis University	Ill.
01803	Huntington College	Ind.	01621	Lewis-Clark St College	Idaho
03464	Huron College	S.D.	03436	Limestone College	S.C.
02043	Husson College	Maine	03502	Lincoln Mem University	Tenn.
03577	Huston-Tillotson College	Tex.	02479	Lincoln University	Mo.
			03290	Lincoln University	Pa.
01620	Idaho State University	Idaho	06975	Lincoln University	Calif.
01617	Idaho, College of	Idaho	02480	Lindenwood Colleges, The	Mo.
01626	Idaho, University of	Idaho	03198	Linfield College	Oreg.
01767	Ill Benedictine College	Ill.	01024	Livingston University	Ala.
01776	Ill Chicago Circle, U of	Ill.	02942	Livingstone College	N.C.
01775	Ill Urbana Campus, U of	Ill.	01218	Loma Linda University	Calif.
01696	Ill Wesleyan University	Ill.	04779	Long Is U Brooklyn Center	N.Y.
01688	Illinois College	Ill.	02754	Long Is U C W Post Center	N.Y.
01691	Illinois Inst Technology	Ill.	02755	Long Is U Southampton Ctr	N.Y.
01692	Illinois State University	Ill.	03719	Longwood College	Va.
03578	Incarinate Word College	Tex.	01873	Loras College	Iowa
01806	Ind Nthn Grad Sch Mgmt	Ind.	01220	Los Angeles Bapt College	Calif.
01813	Ind-Purdue U Indianapolis	Ind.	02007	Louisiana College	La.
01804	Indiana Cen University	Ind.	02008	Louisiana Tech University	La.
01808	Indiana St U Evansvl Cam	Ind.	01999	Louisville, University of	Ky.
09563	Indiana State U Main Cam	Ind.	02161	Lowell, University of	Mass.
01809	Indiana U at Bloomington	Ind.	02078	Loyola College	Md.
01816	Indiana U at South Bend	Ind.	11649	Loyola Marymount U	Calif.
01815	Indiana U Northwest	Ind.	02016	Loyola U In New Orleans	La.
03277	Indiana U of Pa Main Cam	Pa.	01710	Loyola U of Chicago	Ill.
01817	Indiana U Southeast	Ind.	03586	Lubbock Christian College	Tex.
02702	Insurance, College of	N.Y.	01874	Luther College	Iowa
03938	Inter Amer San German Cam	P.R.	03293	Lycoming College	Pa.
03940	Inter Amer U Hato Rey Cam	P.R.	03720	Lynchburg College	Va.
02737	Iona College	N.Y.			
01869	Iowa State U Sci & Techn	Iowa	01717	MacMurray College	Ill.
01871	Iowa Wesleyan College	Iowa	03859	Madison Business College	Wis.
01892	Iowa, University of	Iowa	03721	Madison College	Va.
02739	Ithaca College	N.Y.	02282	Madonna College	Mich.
			11113	Maharishi Intrnatl U	Iowa
02410	Jackson State University	Miss.	06760	Maine at Augusta, U of	Maine

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02055	Maine at Machias, U of	Maine	01582	Morehouse College	Ga.
02053	Maine at Orono, U of	Maine	02083	Morgan State University	Md.
03072	Malone College	Ohio	01879	Morningside College	Iowa
01820	Manchester College	Ind.	01583	Morris Brown College	Ga.
02758	Manhattan College	N.Y.	03439	Morris College	S.C.
02360	Mankato State University	Minn.	03818	Morris Harvey College	W. Va.
01821	Marian College	Ind.	03465	Mount Marty College	S.D.
03073	Marietta College	Ohio	03869	Mount Mary College	Wis.
01822	Marion College	Ind.	01880	Mount Mercy College	Iowa
02765	Marist College	N.Y.	02577	Mount Saint Mary College	N.H.
03863	Marquette University	Wis.	03873	Mount Senario College	Wis.
02944	Mars Hill College	N.C.	01243	Mount Snt Mary's College	Calif.
03815	Marshall University	W. Va.	02086	Mount Snt Mary's College	Md.
02992	Mary College	N.D.	03083	Mount Union College	Ohio
03588	Mary Hardin-Baylor C	Tex.	01452	Mount Vernon College	D.C.
01876	Marycrest College	Iowa	07085	Mount Vernon Nazarene C	Ohio
02284	Marygrove College	Mich.	03033	Mt Snt Jos-on-the-Ohio, C	Ohio
03199	Marylhurst Ed Center	Oreg.	02703	Mt Snt Vincent, College of	N.Y.
01932	Marymount College	Kans.	03304	Muhlenberg College	Pa.
03724	Marymount College of Va	Va.	01731	Mundelein College	Ill.
02769	Marymount Manhattan C	N.Y.	01977	Murray State University	Ky.
02482	Maryville College	Mo.	03084	Muskingum College	Ohio
03505	Maryville College	Tenn.			
03296	Marywood College	Pa.	02045	Nasson College	Maine
02221	Mass Amherst Campus, U of	Mass.	02578	Nathaniel Hawthorne C.	N.H.
02222	Mass Boston Campus, U of	Mass.	11460	National University	Calif.
02178	Mass Inst of Technology	Mass.	04057	Natl College of Business	S.D.
02993	Mayville State College	N.D.	02779	Nazareth C of Rochester	N.Y.
01722	McKendree College	Ill.	02298	Nazareth College	Mich.
03591	McMurry College	Tex.	02905	NC Agri & Tech State U	N.C.
02017	McNeese State University	La.	02907	NC at Asheville, U of	N.C.
01933	McPherson College	Kans.	02974	NC at Chapel Hill, U of	N.C.
02103	Md College Park Cam, U of	Md.	02975	NC at Charlotte, U of	N.C.
02106	Md-Eastern Shore, U of	Md.	02976	NC at Greensboro, U of	N.C.
09762	Me at Portland-Gorham, U	Maine	02984	NC at Wilmington, U of	N.C.
02033	Me at Presque Isle, U of	Maine	02950	NC Central University	N.C.
03509	Memphis State University	Tenn.	02972	NC State U Raleigh	N.C.
01236	Menlo College	Calif.	02951	NC Wesleyan College	N.C.
08419	Mercer U In Atlanta	Ga.	03005	ND Main Campus, U of	N.D.
01580	Mercer U Main Campus	Ga.	09265	ND State U Main Campus	N.D.
02772	Mercy College	N.Y.	02555	Nebr Wesleyan University	Nebr.
02286	Mercy College of Detroit	Mich.	02554	Nebraska at Omaha, U of	Nebr.
03297	Mercyhurst College	Pa.	02565	Nebraska-Lincoln, U of	Nebr.
02945	Meredith College	N.C.	02569	Nevada Las Vegas, U of	Nev.
02120	Merrimack College	Mass.	02568	Nevada Reno, U of	Nev.
01358	Mesa College	Colo.	04731	New Eng Aeronautical Inst	N.H.
03298	Messiah College	Pa.	02579	New England College	N.H.
02946	Methodist College	N.C.	02580	New Hampshire College	N.H.
01360	Metropolitan St College	Colo.	02589	New Hampshire, U of	N.H.
07104	Miami University Main Cam	Ohio	01397	New Haven, University of	Conn.
01536	Miami, University of	Fla.	02653	New Mexico Highlands U	N.M.
02290	Michigan State University	Mich.	02015	New Orleans, University of	La.
02292	Michigan Technological U	Mich.	02704	New Rochelle, College of	N.Y.
09092	Michigan-Ann Arbor, U	Mich.	02785	New York University	N.Y.
02326	Michigan-Dearborn, U of	Mich.	03440	Newberry College	S.C.
02327	Michigan-Flint, U of	Mich.	02591	NH Plymouth St College, U	N.H.
07032	Mid-America Nazarene C	Kans.	02788	Niagara University	N.Y.
03510	Middle Tenn St University	Tenn.	02005	Nicholls State University	La.
02553	Midland Lutheran College	Nebr.	02197	Nichols College	Mass.
03592	Midwestern St University	Tex.	02621	NJ Institute Technology	N.J.
01028	Miles College	Ala.	10313	NM Main Campus, U of	N.M.
03511	Milligan College	Tenn.	02657	NM State U Main Campus	N.M.
01724	Millikin University	Ill.	03765	Norfolk State College	Va.
02414	Millsaps College	Miss.	02187	North Adams State College	Mass.
03865	Milton College	Wis.	01016	North Alabama, U of	Ala.
03868	Milwaukee Sch Engineering	Wis.	01734	North Central College	Ill.
03969	Minn Mnpls Snt Paul, U of	Minn.	09841	North Florida, U of	Fla.
02388	Minnesota Duluth, U of	Minn.	01585	North Georgia College	Ga.
02994	Minot State College	N.D.	01735	North Park C & Theol Sem	Ill.
03247	Misericordia, College	Pa.	03594	North Texas St University	Tex.
02421	Miss Industrial College	Miss.	02020	Northeast Louisiana U	La.
02422	Miss University for Women	Miss.	03161	Northeastern Okla State U	Okla.
02424	Miss Vly St University	Miss.	02199	Northeastern University	Mass.
02415	Mississippi College	Miss.	01082	Northern Ariz University	Ariz.
02440	Mississippi Main Cam, U of	Miss.	01349	Northern Colorado, U of	Colo.
02423	Mississippi St. University	Miss.	01737	Northern Ill University	Ill.
07540	Missouri Baptist College	Mo.	01890	Northern Iowa, U of	Iowa
02488	Missouri Sthn St College	Mo.	09275	Northern Ky University	Ky.
02489	Missouri Valley College	Mo.	02301	Northern Mich University	Mich.
02490	Missouri Wstn St College	Mo.	03466	Northern State College	S.D.
02516	Missouri-Columbia, U of	Mo.	03875	Northland College	Wis.
02518	Missouri-Kansas City, U of	Mo.	01248	Northrop University	Calif.
02519	Missouri-Saint Louis, U of	Mo.	01883	Northwestern College	Iowa
01241	Mntrey Inst Forgn Studies	Calif.	02371	Northwestern College	Minn.
01029	Mobile College	Ala.	01739	Northwestern University	Ill.
01725	Monmouth College	Ill.	04072	Northwood Inst Main Cam	Mich.
02616	Monmouth College	N.J.	03692	Norwich U Main Cam	Vt.
02532	Montana State University	Mont.	03085	Notre Dame College	Ohio
02536	Montana, University of	Mont.	02584	Notre Dame College	N.H.
02617	Montclair State College	N.J.	02065	Notre Dame MD, College of	Md.
01004	Montevallo, University of	Ala.	01179	Notre Dame, College of	Calif.
02367	Moorhead State University	Minn.	01840	Notre Dame, University of	Ind.
03301	Moravian College	Pa.	01509	Nova University	Fla.
01976	Morehead State University	Ky.	02495	Nthst Mo St University	Mo.

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01693	Nthwestn Ill University	Ill.	02048	Ricker College	Maine
02496	Nthwst Mo St University	Mo.	02628	Rider College	N.J.
01624	Nthwst Nazarene College	Idaho	03116	Rio Grande College	Ohio
03163	Nthwstn Okla State U	Okla.	02586	Rivier College	N.H.
02021	Nthwstn St U of La	La.	03736	Roanoke College	Va.
04804	NY Inst Techn Main Campus	N.Y.	03359	Robert Morris College	Pa.
02782	NY Inst Techn NY Cty Cam	N.Y.	02806	Rochester Inst Technology	N.Y.
			02894	Rochester, University of	N.Y.
01824	Oakland City College	Ind.	02499	Rockhurst College	Mo.
02307	Oakland University	Mich.	02534	Rocky Mountain College	Mont.
01033	Oakwood College	Ala.	04917	Roger Williams C Main Cam	R.I.
01586	Oglethorpe College	Ga.	09056	Roger Williams C Prov Br	R.I.
03035	Ohio Dominican College	Ohio	01515	Rollins College	Fla.
03089	Ohio Northern University	Ohio	01749	Roosevelt University	Ill.
06883	Ohio State U Main Campus	Ohio	01750	Rosary College	Ill.
03100	Ohio U Main Campus	Ohio	03360	Rosemont College	Pa.
03109	Ohio Wesleyan University	Ohio	02810	Russell Sage C Main Cam	N.Y.
03165	Okla Christian College	Okla.	02433	Rust College	Miss.
03174	Okla Panhandle State U	Okla.	04741	Rutgers U Camden Campus	N.J.
03170	Okla State U Main Campus	Okla.	06964	Rutgers U New Brunswick	N.J.
03164	Oklahoma Bapt University	Okla.	02631	Rutgers U Newark Campus	N.J.
03166	Oklahoma City University	Okla.			
03184	Oklahoma Norman Cam U of	Okla.	01403	Sacred Heart University	Conn.
03728	Old Dominion University	Va.	03937	Sacred Heart, College of	P.R.
02308	Olivet College	Mich.	02314	Saginaw Vly State College	Mich.
01741	Olivet Nazarene College	Ill.	01889	Saint Ambrose College	Iowa
03985	Oral Roberts University	Okla.	02968	Saint Augustines College	N.C.
03223	Oregon Main Campus, U of	Oreg.	02341	Saint Benedict, College of	Minn.
03210	Oregon State University	Oreg.	02817	Saint Bonaventure U	N.Y.
01937	Ottawa University	Kans.	02377	Saint Cloud St University	Minn.
03110	Otterbein College	Ohio	03621	Saint Edward's University	Tex.
01102	Ouachita Bapt University	Ark.	02050	Saint Francis College	Maine
03598	Our Lady of Lake U	Tex.	01832	Saint Francis College	Ind.
01094	Ozarks, College of the	Ark.	02820	Saint Francis College	N.Y.
02500	Ozarks, School of the	Mo.	03366	Saint Francis College	Pa.
			01664	Saint Francis, College of	Ill.
06814	Pa State U Capitol Campus	Pa.	02821	Saint John Fisher College	N.Y.
06965	Pa State U Main Campus	Pa.	02379	Saint John's University	Minn.
02727	Pace U C of White Plains	N.Y.	02823	Saint John's University	N.Y.
02792	Pace U Pleasantville Cam	N.Y.	01409	Saint Joseph College	Conn.
02791	Pace University New York	N.Y.	01833	Saint Joseph's College	Ind.
01253	Pacific College	Calif.	02051	Saint Joseph's College	Maine
03785	Pacific Luth University	Wash.	03367	Saint Joseph's College	Pa.
01258	Pacific Union College	Calif.	01526	Saint Leo College	Fla.
03212	Pacific University	Oreg.	02506	Saint Louis U Main Campus	Mo.
01329	Pacific, University of the	Calif.	03970	Saint Louis U-Parks C	Ill.
01587	Paine College	Ga.	03794	Saint Martin's College	Wash.
08849	Palm Bch Atlantic College	Fla.	01943	Saint Mary College	Kans.
03599	Pan American University	Tex.	01944	Saint Mary Plains College	Kans.
02498	Park College	Mo.	01836	Saint Mary's College	Ind.
03602	Paul Quinn College	Tex.	02380	Saint Mary's College	Minn.
02954	Pembroke State University	N.C.	02028	Saint Mary's Dominican C	La.
03378	Pennsylvania, U of	Pa.	01835	Saint Mary-of-the-Woods C	Ind.
01264	Pepperdine University	Calif.	03694	Saint Michael's College	Vt.
02559	Peru State College	Nebr.	03892	Saint Norbert College	Wis.
02955	Pfeiffer College	N.C.	03739	Saint Paul's College	Va.
03354	Phila C Textiles and Sci	Pa.	02638	Saint Peters College	N.J.
01103	Philander Smith College	Ark.	02705	Saint Rose, College of	N.Y.
03175	Phillips University	Okla.	02343	Saint Scholastica, College	Minn.
01588	Piedmont College	Ga.	02344	Saint Teresa, College of	Minn.
01980	Pikeville College	Ky.	02832	Saint Thomas Aquinas C	N.Y.
03379	Pittsbg Main Campus, U of	Pa.	02345	Saint Thomas, College of	Minn.
01172	Pitzer College	Calif.	03368	Saint Vincent College	Pa.
01262	Point Loma College	Calif.	01768	Saint Xavier College	Ill.
03357	Point Park College	Pa.	03820	Salem College Main Campus	W. Va.
02796	Polytechnic Inst New York	N.Y.	02188	Salem State College	Mass.
03216	Portland State University	Oreg.	02091	Salisbury State College	Md.
03224	Portland, University of	Oreg.	03411	Salve Regina-Newport C	R.I.
07206	PR Cayey University C, U	P.R.	03606	Sam Houston St University	Tex.
03944	PR Mayaguez, U of	P.R.	01036	Samford University	Ala.
07108	PR Rio Piedras, U of	P.R.	01151	San Diego State U	Calif.
03630	Prairie View A&M U	Tex.	10395	San Diego, University of	Calif.
02798	Pratt Institute	N.Y.	01154	San Francisco State U	Calif.
03445	Presbyterian College	S.C.	01325	San Francisco, U of	Calif.
01744	Principia College	Ill.	01155	San Jose State U	Calif.
03406	Providence College	R.I.	09333	Sangamon State University	Ill.
03797	Puget Sound, University of	Wash.	01326	Santa Clara, University of	Calif.
01827	Purdue U Calumet Campus	Ind.	02649	Santa Fe, College of	N.M.
01825	Purdue U Main Campus	Ind.	01590	Savannah State College	Ga.
01826	Purdue U North Cen Campus	Ind.	03449	SC at Aiken, U of	S.C.
01812	Purdue-Ind U Fort Wayne	Ind.	03451	SC at Conway, U of	S.C.
			06951	SC at Spartanburg, U of	S.C.
02957	Queens College	N.C.	03448	SC Main Campus, U of	S.C.
01745	Quincy College	Ill.	03446	SC State College	S.C.
01402	Quinnipiac College	Conn.	03167	Sci & Arts of Okla, U of	Okla.
			03384	Scranton, University of	Pa.
03732	Radford College	Va.	03474	SD Main Campus, U of	S.D.
09344	Ramapo C of New Jersey	N.J.	03471	SD State University	S.D.
01322	Redlands, University of	Calif.	03788	Seattle Pacific College	Wash.
01363	Regis College	Colo.	03790	Seattle University	Wash.
02803	Rensselaer Poly Institute	N.Y.	02632	Seton Hall University	N.J.
03414	Rhode Island, U of	R.I.	03362	Seton Hill College	Pa.
03604	Rice University	Tex.	02289	Shaw College at Detroit	Mich.
09345	Richard Stookton State C	N.J.	02962	Shaw University	N.C.
03744	Richmond, University of	Va.	03737	Sheandoah C-Consrv Music	Va.

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03822	Shepherd College	W. Va.	03524	Tennessee Temple College	Tenn.
03326	Shippensburg St College	Pa.	11161	Tex A&I U Corpus Christi	Tex.
01591	Shorter College	Ga.	09651	Texas A&I U Laredo	Tex.
02816	Siena College	N.Y.	03639	Texas A&I University	Tex.
02316	Siena Heights College	Mich.	10366	Texas A&M U Main Campus	Tex.
02208	Simmons College	Mass.	03656	Texas at Arlington, U of	Tex.
01887	Simpson College	Iowa	03658	Texas at Austin, U of	Tex.
03469	Sioux Falls College	S.D.	09741	Texas at Dallas, U of	Tex.
02814	Skidmore College	N.Y.	03661	Texas at El Paso, U of	Tex.
02967	Snt Andrews Presb College	N.C.	03636	Texas Christian U	Tex.
02342	Snt Catherine, College of	Minn.	03638	Texas College	Tex.
02600	Snt Elizabeth, College of	N.J.	11163	Texas Eastern University	Tex.
03685	Snt Joseph the Provider, C	Vt.	03641	Texas Lutheran College	Tex.
01302	Snt Mary's College of Cal	Calif.	09930	Texas Permian Basin, U of	Tex.
03623	Snt Mary's U San Antonio	Tex.	10115	Texas San Antonio, U of	Tex.
03654	Snt Thomas, University of	Tex.	03642	Texas Southern University	Tex.
01057	South Alabama, U of	Ala.	03644	Texas Tech University	Tex.
01537	South Florida, U of	Fla.	03645	Texas Wesleyan College	Tex.
01456	Southeastern University	D.C.	03646	Texas Woman's University	Tex.
01293	Southern Cal College	Calif.	03376	Thiel College	Pa.
01328	Southern California, U of	Calif.	11648	Thomas A Edison College	N.J.
01365	Southern Colorado, U of	Colo.	02052	Thomas College	Maine
03613	Southern Meth University	Tex.	02001	Thomas More College	Ky.
02441	Southern Mississippi, U of	Miss.	03121	Tiffin University	Ohio
09636	Southern U A&M C Main Cam	La.	01595	Tift College	Ga.
03678	Southern Utah St College	Utah	03131	Toledo, University of	Ohio
03693	Southern Vermont College	Vt.	02099	Towson State University	Md.
02502	Southwest Baptist College	Mo.	01987	Transylvania University	Ky.
02650	Southwest, College of the	N.M.	02642	Trenton State College	N.J.
01940	Southwestern College	Kans.	03526	Trevecca Nazarene College	Tenn.
03620	Southwestern University	Tex.	01839	Tri-State University	Ind.
02318	Spring Arbor College	Mich.	01771	Trinity Christian College	Ill.
03363	Spring Garden College	Pa.	03695	Trinity College	Vt.
01041	Spring Hills College	Ala.	03647	Trinity University	Tex.
11716	St NY Regents Extnl Deg, U	N.Y.	01048	Troy St U Dothn-Ft Rucker	Ala.
01305	Stanford University	Calif.	01047	Troy State U Main Campus	Ala.
03521	Steed College	Tenn.	01049	Troy State U Montgomery	Ala.
03624	Stephen F. Austin State U	Tex.	02029	Tulane U of Louisiana	La.
02512	Stephens College	Mo.	03185	Tulsa, University of	Okla.
01945	Sterling College	Kans.	03527	Tusculum College	Tenn.
01531	Stetson University	Fla.	01050	Tuskegee Institute	Ala.
03036	Steubenville, College of	Ohio			
02501	Sthest Mo St University	Mo.	01314	U of Cal-Irvine	Calif.
02024	Sthestn La University	La.	01988	Union College	Ky.
02210	Sthestn Mass University	Mass.	02563	Union College	Nebr.
03179	Sthestn Okla State U	Okla.	02889	Union College	N.Y.
01107	Sthn Ark U Main Campus	Ark.	10923	Union Experimenting C & U	Ohio
29023	Sthn Benedictine College	Ala.	03528	Union University	Tenn.
01758	Sthn Illinois U Carbondl	Ill.	01893	Upper Iowa University	Iowa
01759	Sthn Illinois U Edwardsvl	Ill.	02644	Upsala College	N.J.
03518	Sthn Missionary College	Tenn.	03133	Urbana College	Ohio
03219	Sthn Oregon St College	Oreg.	03385	Ursinus College	Pa.
02026	Sthn U In New Orleans	La.	01369	US Air Force Academy	Colo.
02503	Sthwst Mo St University	Mo.	01415	US Coast Guard Academy	Conn.
02375	Sthwst State University	Minn.	01158	US International U	Calif.
03615	Sthwst Tex St University	Tex.	01310	US Naval Postgrad School	Calif.
02031	Sthwestn Louisiana, U of	La.	03677	Utah State University	Utah
03181	Sthwstn Okla State U	Okla.	03675	Utah, University of	Utah
03619	Sthwstn Union College	Tex.	02883	Utica C of Syracuse U	N.Y.
01044	Stillman College	Ala.			
02217	Stonehill College	Mass.	03747	Va Clinch Vly College, U	Va.
01459	Strayer College	D.C.	03752	Va Intermont College	Va.
02218	Suffolk University	Mass.	03754	Va Poly Inst and State U	Va.
03625	Sul Ross State University	Tex.	01599	Valdosta State College	Ga.
02835	SUNY at Albany	N.Y.	03008	Valley City State College	N.D.
02836	SUNY at Binghamton	N.Y.	01842	Valparaiso University	Ind.
02837	SUNY at Buffalo Main Cam	N.Y.	03535	Vanderbilt University	Tenn.
02841	SUNY College at Brockport	N.Y.	03388	Villanova University	Pa.
02844	SUNY College at Fredonia	N.Y.	08841	Virgin Islands, College of	V.I.
02845	SUNY College at Geneseo	N.Y.	03735	Virginia Commonwealth U	Va.
02848	SUNY College at Oswego	N.Y.	06968	Virginia Main Campus, U of	Va.
07109	SUNY College Old Westbury	N.Y.	03764	Virginia State College	Va.
02849	SUNY College Plattsburgh	N.Y.	03766	Virginia Union University	Va.
06792	SUNY College Utica-Rome	N.Y.	03455	Voorhees College	S.C.
10286	SUNY Empire State College	N.Y.	03696	Vt & State Agrl College, U	Vt.
02853	SUNY Maritime College	N.Y.			
03369	Susquehanna University	Pa.	01337	W Coast U Orange Co Ctr	Calif.
02882	Syracuse U Main Campus	N.Y.	06869	W Va College Grad Studies	W. Va.
			03826	W Va State College	W. Va.
01946	Tabor College	Kans.	02899	Wagner College	N.Y.
11728	Tampa College	Fla.	02978	Wake Forest University	N.C.
01538	Tampa, University of	Fla.	03799	Walla Walla College	Wash.
02513	Tarkio College	Mo.	04071	Walsh C Accty & Bus Adm	Mich.
03631	Tarleton State University	Tex.	03135	Walsh College	Ohio
01838	Taylor University	Ind.	03225	Warner Pacific College	Oreg.
03371	Temple University	Pa.	01896	Wartburg College	Iowa
03529	Tenn at Chattanooga, U of	Tenn.	11928	Wash Intrnatl College	D.C.
03525	Tenn Wesleyan College	Tenn.	01949	Washburn U of Topeka	Kans.
03531	Tennessee at Martin, U of	Tenn.	03768	Washington and Lee U	Va.
03530	Tennessee Knoxville, U of	Tenn.	03800	Washington St University	Wash.
03533	Tennessee Nashville, U of	Tenn.	02520	Washington University	Mo.
03522	Tennessee St University	Tenn.	03798	Washington, University of	Wash.
03523	Tennessee Technological U	Tenn.			

15. Code list for colleges and universities

03663	Wayland Baptist College	Tex.
02566	Wayne State College	Nebr.
02329	Wayne State University	Mich.
03391	Waynesburg College	Pa.
03680	Weber State College	Utah.
02521	Webster College	Mo.
01600	Wesleyan College	Ga.
03328	West Chester St College	Pa.
01336	West Coast U Main Campus	Calif.
03955	West Florida, U of	Fla.
01601	West Georgia College	Ga.
03823	West Liberty St College	W. Va.
03665	West Texas St University	Tex.
03825	West Va Inst Technology	W. Va.
03830	West Va Wesleyan College	W. Va.
03827	West Virginia University	W. Va.
02056	Westbrook College	Maine
01380	Western Conn St College	Conn.
01780	Western Ill University	Ill.
02002	Western Ky University	Ky.
02109	Western Maryland College	Md.
02330	Western Mich University	Mich.
02226	Western New Eng College	Mass.
02664	Western NM University	N.M.
01372	Western St. College Colo	Colo.
03802	Western Wash St College	Wash.
01899	Westmar College	Iowa
03681	Westminster College	Utah
03392	Westminster College	Pa.
03831	Wheeling College	W. Va.
01342	Whittier College	Calif.
02446	Whitworth College	Miss.
03804	Whitworth College	Wash.
01950	Wichita State University	Kans.
03313	Widener College	Pa.
03141	Wilberforce University	Ohio
03669	Wiley College	Tex.
03394	Wilkes College	Pa.
03227	Willamette University	Oreg.
03705	William & Mary Main Cam, C	Va.
02447	William Carey College	Miss.
02524	William Jewell College	Mo.
02625	William Paterson College	N.J.
01900	William Penn College	Iowa
02525	William Woods College	Mo.
03142	Wilmington College	Ohio
07948	Wilmington College	Del.
03699	Windham College	Vt.
02394	Winona State University	Minn.
02986	Winston-Salem State U	N.C.
03456	Winthrop College	S.C.
03917	Wisconsin Eau Claire, U of	Wis.
03919	Wisconsin La Crosse, U of	Wis.
03895	Wisconsin Madison, U of	Wis.
03896	Wisconsin Milwaukee, U of	Wis.
09630	Wisconsin Oshkosh, U of	Wis.
05015	Wisconsin Parkside, U of	Wis.
03921	Wisconsin Plattevl, U of	Wis.
03923	Wisconsin River Fls, U of	Wis.
03924	Wisconsin Stevens Pnt, U of	Wis.
03915	Wisconsin Stout, U of	Wis.
03925	Wisconsin Superior, U of	Wis.
03926	Wisconsin Whitewater, U of	Wis.
03143	Wittenberg University	Ohio
03457	Wofford College	S.C.
01343	Woodbury University	Calif.
03037	Wooster, College of	Ohio
02233	Worcester Poly Institute	Mass.
02190	Worcester State College	Mass.
05031	World University	P.R.
09168	Wright St U Main Campus	Ohio
02981	Wstn Carolina University	N.C.
03932	Wyoming, University of	Wyo.
03144	Xavier University	Ohio
02032	Xavier University of La	La.
01426	Yale University	Conn.
03476	Yankton College	S.D.
03399	York College Pennsylvania	Pa.
03145	Youngstown St University	Ohio

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University of Akron	BM	University of Central Florida	BM	Georgia State University	BM
University of Alabama	BM	University of Chicago	M	Harvard University	M
University of Alabama in Birmingham	BM	University of Cincinnati	BM	University of Hawaii	BM
University of Alberta	BM	Clarkson College	B	Hofstra University	B
Appalachian State University	B	Clemson University	B	University of Houston	BM
University of Arizona	BM	Cleveland State University	BM	Howard University	BM
Arizona State University	BM	University of Colorado	BM		
University of Arkansas	BM	Colorado State University	BM	Idaho State University	BM
University of Arkansas at Little Rock	B	Columbia University	M	University of Illinois at Chicago Circle	B
Arkansas State University	B	University of Connecticut	BM	University of Illinois at Urbana-Champaign	BM
Atlanta University	M	Cornell University	M	Indiana State University	B
Auburn University	BM	Creighton University	B	Indiana University	BM
				University of Iowa	BM
Babson College	B	Dartmouth College	M		
Ball State University	B	University of Delaware	B	John Carroll University	B
Baylor University	BM	University of Denver	BM		
The Bernard M. Baruch College	B	DePaul University	BM	University of Kansas	BM
Boise State University	B	University of Detroit	BM	Kansas State University	BM
Boston College	BM	Drake University	BM	Kent State University	BM
Boston University	BM	Drexel University	BM	University of Kentucky	BM
Bowling Green State University	BM	Duke University	M		
Bradley University	B	Duquesne University	BM	Lamar University	B
University of Bridgeport	B			Lehigh University	BM
Brigham Young University	BM	East Carolina University	BM	Louisiana State University	BM
		East Texas State University	B	Louisiana Tech University	BM
University of California	BM	Eastern Michigan University	B	Loyola University (Chicago)	BM
University of California, Los Angeles	M	Eastern Washington University	B	Loyola University (New Orleans)	BM
California State College, Bakersfield	B	Emory University	BM		
California State University, Chico	BM			University of Maine at Orono	B
California State University, Fresno	BM	University of Florida	BM		
California State University, Fullerton	BM	Florida Atlantic University	BM	Marquette University	BM
California State University, Hayward	B	Florida State University	BM	University of Maryland	BM
California State University, Long Beach	BM	Fordham University	B	University of Massachusetts	BM
California State University, Los Angeles	BM	Fort Lewis College	B	Massachusetts Institute of Technology	BM
California State University, Northridge	B			Memphis State University	BM
California State University, Sacramento	BM	The George Washington University	B	University of Miami	BM
Canisius College	B	University of Georgia	BM	Miami University	BM
Carnegie-Mellon University	M	Georgia Institute of Technology	BM	The University of Michigan	BM
Case Western Reserve University	BM	Georgia Southern College	B	Michigan State University	BM

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Middle Tennessee State University	BM	University of Pittsburgh	BM
University of Minnesota	B	University of Portland	B
University of Mississippi	BM	Portland State University	B
Mississippi State University	BM	Purdue University	BM
University of Missouri-Columbia	BM	Rensselaer Polytechnic Institute	B
University of Missouri-Kansas City	BM	University of Rhode Island	BM
University of Missouri-St. Louis	B	University of Richmond	B
University of Montana	B	University of Rochester	M
Murray State	BM	Roosevelt University	B
University of Nebraska-Lincoln	B	Rutgers-The State University of New Jersey	M
The University of Nebraska at Omaha	BM	Saint Cloud State University	B
University of Nevada-Reno	BM	Saint John's University	B
The University of New Mexico	B	Saint Louis University	BM
New Mexico State University	BM	University of San Diego	B
University of New Orleans	B	University of San Diego	BM
New York University (undergraduate)	M	San Diego State University	BM
New York University (graduate)	BM	University of San Francisco	B
University of North Carolina at Chapel Hill	B	San Francisco State University	BM
North Carolina A & T State University	B	San Jose State University	BM
University of North Florida	BM	University of Santa Clara	BM
North Texas State University	BM	Seattle University	BM
Northeast Louisiana University	BM	Seton Hall University	B
Northeastern University	BM	University of South Alabama	BM
Northern Arizona University	BM	University of South Carolina	BM
Northern Illinois University	BM	University of South Dakota	BM
Northwestern University	M	University of South Florida	BM
University of Notre Dame	BM	University of Southern California	BM
Ohio State University	BM	Southern Illinois University at Carbondale	BM
Ohio University	BM	Southern Illinois University at Edwardsville	BM
University of Oklahoma	BM	Southern Methodist University	BM
Oklahoma State University	BM	University of Southern Mississippi	BM
Old Dominion University	BM	Stanford University	M
University of Oregon	BM	State University of New York at Albany	BM
Oregon State University	BM	State University of New York at Buffalo	BM
Pacific Lutheran University	BM	Stephen F. Austin State University	B
Pan American University	B	Syracuse University	BM
University of Pennsylvania	BM	Temple University	BM
The Pennsylvania State University	BM	University of Tennessee, Knoxville	BM
		Tennessee Technological University	B
		The University of Texas at Arlington	BM
		University of Texas at Austin	BM
		University of Texas at San Antonio	BM
		Texas A & M University	BM
		Texas Christian University	BM
		Texas Southern University	B
		Texas Tech University	B
		University of Toledo	BM
		Tulane University	M
		University of Tulsa	BM
		University of Utah	BM
		Utah State University	B
		Vanderbilt University	M
		Villanova University	B
		University of Virginia (undergraduate)	B
		University of Virginia (graduate)	M
		Virginia Commonwealth University	B
		Virginia Polytechnic Institute and State University	BM
		University of Washington	BM
		Washington and Lee University	B
		Washington State University	BM
		Washington State University	BM
		Wayne State University	B
		West Virginia University	BM
		Western Illinois University	B
		Western Michigan University	BM
		Wichita State University	BM
		College of William and Mary	BM
		Winthrop College	B
		University of Wisconsin-Eau Claire	B
		University of Wisconsin-Madison	BM
		University of Wisconsin-Milwaukee	BM
		University of Wisconsin-Oshkosh	BM
		University of Wisconsin-Whitewater	BM
		Wright State University	BM
		University of Wyoming	B