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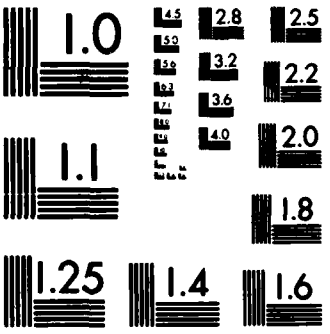

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Office of Aviation Medicine
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THE FLIGHT SERVICE STATION TRAINING PROGRAM: 1981-1985

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Federal Aviation Administration
Washington, D.C. 20591

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Final Report

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16. Abstract

This report describes the performance of the ATC classes in the Flight Service Station Training Program from 1981 to 1985 on the skills tests and laboratory exercises in Preflight (pilot briefing), Inflight, and Emergency Services. Over 80% of the final grade for the program is based on these measures. The average scores of the classes on the skills tests, especially on Inflight, have increased from 1981 to 1985. The different forms of both the Preflight test and the Emergency Services test appear to be equivalent as intended; however, Form G and Form H of the Inflight test are easier than Form D and Form E. The average scores of the classes on the laboratory exercises in Preflight and Emergency Services have been fairly constant from 1981 to 1985; however, the averages on the Inflight laboratory exercises have declined steadily. Overall, these classes have performed better on the skills tests and laboratory exercises, except for Inflight, than did the reference classes of 1978 and 1979.

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THE FLIGHT SERVICE STATION TRAINING PROGRAM: 1981 - 1985

In 1978 a new Flight Service Station (FSS) Program began. At that time new measures and norms were developed to create standards of performance which students must meet to become eligible for acceptance into the operational facility work force. One type of measure was the FSS Skills Test, a paper-and-pencil simulation of laboratory problems. Skills tests were developed in three areas: Pilot Briefing (Preflight), Inflight, and Emergency Services. In addition to skills tests, primary laboratory exercises were developed for these same areas. Other measures included in the program were secondary laboratory exercises in the areas of flight data, weather observation, teletype and broadcast, as well as academic block tests in all areas.

A final grade for each student in the training program was determined in the following manner. First, a composite grade for each student was formed from a linear combination of the skills test, primary laboratory exercises, secondary laboratory exercises, and academic block tests. The skills tests and primary laboratory exercises were assigned the highest weights in the linear combination, 80% of the linear combination until class 85007, 83.75% from classes 85007 to 85016, and 86% since class 85016. Second, a phase grade for each student was determined from a transformation of the composite grade.

Pickrel (1979) reported on the development of the passing scores for the skills tests and primary laboratory exercises, and on the development of the transformation used to determine the phase grade from the composite grade. In general, the minimum passing scores for the skills tests and primary laboratory exercises were selected so that approximately 5% of the examinees from a normative group of eight FSS classes, 7801 to 9006, failed each indicator. The transformation used to calculate the phase grade from the composite grade was determined so that approximately 5% of the students would receive a failing grade below 70. In addition, a training failure also occurred if any student failed both the skills test and the laboratory exercise in one of the primary areas, Preflight, Inflight, or Emergency Services.

This report describes the performance of the ATC specialists who participated in the FSS training program from 1981 to 1985. The report is limited to a discussion of the performance of the students on the skills tests, the primary laboratory exercises, and the phase grade. 1981 was chosen as the starting point since the FSS training program was interrupted for a short time during that year because of the PATCO strike. Some modifications to the skills tests were made when the training program resumed, and other modifications have been made subsequently. All of the 1981 classes are included in the analysis for completeness, although six of the nine classes that year were completed prior to the strike.

Method

Appendix A lists for each class included in the analysis the mean scores for each skills test, each primary laboratory exercise, and the phase grade. The data for each class were aggregated by year and the following statistics were calculated.

First, the mean and standard deviation for each skills test, primary laboratory exercise, and phase grade were calculated for each year. In the case of the skills tests, means were also computed for each form of the test as appropriate.

Second, the distribution of scores was determined for the phase grade, the skills tests, and the laboratory exercises. Four intervals were used to display the data: 100-90, 89-80, 79 to the minimum passing score (usually 70), and failure (usually below 70). For the skills tests and laboratory exercises, each distribution was compared to the distribution of a reference group of FSS classes which consisted of the normative group 7801 to 9006 used by Pickrel (1979) and classes 9007 to 9012.

Third, the correlations of each measure with the other measures were calculated and compared.

Phase Grade

Table 1 contains the means, standard deviations, distribution of proportions in each grade interval, and correlations for the phase grade. A slight, but steady, increase is evident in the average grades of the FSS classes from 1981 to 1984. During these years increasingly fewer students received grades between 70 and 79. The percentage of students with grades in this interval dropped from 32.2% in 1981 to 19.2% in 1984. During these same four years the failure rate as determined by the phase grade varied between 1.7% and 2.5%, considerably lower than the approximately 5% for the normative classes. In 1985, the average phase grade declined noticeably with the percentage of students with grades from 70 to 79 (25.2%) and the percentage of failures (6.2%) increasing sharply.

Even though the skills tests and the primary laboratory exercises have equal weight in the linear combination used to calculate the phase grade, laboratory scores correlate higher with the phase grade than do the skills tests. The correlations of the phase grade with the laboratory scores range from .721 to .754 while the correlations of the phase grade with the skills tests range from .391 to .564. Interestingly, the phase grade correlates highest with the Inflight laboratory score and lowest with the Inflight Skills Test.

Skills Tests

Preflight

Table 2 contains the summary statistics for the Preflight Skills Test. Two forms of this test are currently in use. Form C was introduced in 1983.

The mean scores on Form B have increased slightly, but steadily, from 1981 to 1985. The overall change of 1.43 is approximately 1/4 of a standard deviation which is considered small. Overall Form C is slightly more difficult than Form B, but the difference between the forms is not significant. The largest difference, which occurs in 1985, is 1.25 points.

Overall the performance of the FSS classes from 1981 to 1985 is better than the performance of the reference group, 7801 to 9012. The score distributions for the 1981 to 1985 classes were skewed more negatively than the distribution

for the reference classes with the 1981-1985 classes having a higher proportion of students in the top two score intervals and a lower proportion in the lower two score intervals. The failure rates for the 1981-1985 classes ranged from 0.7% to 2.7%, far lower than the 8.1% for the reference classes.

The Preflight Skills Test correlates about the same with the other skills tests and the primary laboratory exercises. The overall correlations range from .200 to .268. The correlation of the Preflight Skills Test with the Preflight laboratory score (.254) is among the highest of the correlations, but it is not as high as the correlation wiith the Inflight laboratory score (.268).

Inflight

Table 3 contains the summary statistics for the Inflight Skills Test. Four forms of the test are currently used. A revised Form D was introduced late in 1981 after the PATCO strike. Form E was introduced in 1982, and Form G and Form H were introduced in 1983. Most of the classes in 1985 took either Form G or Form H.

The original version of Form D had a maximum of 73 possible points. The revised version of Form D and each of the other forms have a maximum of 125 possible points. The conversion of the scores from a 0-73 metric and a 0-125 metric to a 0-100 scoring metric has resulted in a different transformation which makes the original Form D appear harder than the revised Form D and the other forms. The performance of students from the classes in which the original Form D was given and those from classes in which the revised Form D was given is shown separately in Table 3 due to this difference in apparent difficulty.

As the pattern of means indicates, marked differences in the relative difficulty of the different forms are apparent which are not due to different transformation of scoring metrics. Form G and Form H are the easiest forms, Form E is more difficult than these, and Form D is the most difficult of the four forms. The differences between Form G and Form H and the other forms are large, the difference being almost one standard deviation relative to Form E and greater than one and a half standard deviations relative to Form D.

In addition to differences in mean performance across different forms, differences within forms across time are evident. The mean scores on the revised Form D have increased steadily since 1981. A steady increase in mean performance of the classes on Form E has occurred from 1982 to 1984. However, these increases within forms are not as large as the differences between forms as noted above.

The distributions of scores for classes from 1982 to 1985 on the Inflight Skills Test have deviated considerably from the distribution of scores for the reference classes. These deviations are due to at least three factors. First, the change in possible points from 73 prior to the end of 1981 to 125 has resulted in a score transformation advantage of about 8 points on the average to students beginning in class 8129. Furthermore, due to the nature of the transformation examinees who score lower than the average score receive more of an advantage, while examinees who scored higher than the average score receive less of an advantage. Second, the difference in the difficulty of the forms has resulted in a change of approximately three to six points in the mean score for examinees, with examinees taking Form G and Form H obtaining the higher mean scores. Note that in 1985 most of the classes (15 out of 19) took the easier

forms of the test. Third, the within-form increases due either to chance, better instruction, better students, or compromises in the security of the test also contribute some to this deviation.

Since 1981 few students have failed the Inflight Skills Test. The failure rate for the reference classes was 6.1% and for 1981 the failure rate was 14.3%. However, since 1982 the failure rate has ranged from 0 to 1.5%, a total of six failures in the four years.

The overall correlations of the Inflight Skills Test with the other skills tests are larger than the correlations with the laboratory scores. The overall correlations with the Preflight Skills Test and the Emergency Services Skills Test are .231 and .276, respectively, while the correlations with the laboratory scores range from .098 to .200. Except for 1983, the correlations of the Inflight Skills Test with the Inflight laboratory scores were good, ranging from .303 to .432.

Emergency Services

Table 4 contains the summary statistics for the Emergency Services Skills Test. Three forms of this test are currently used: Form C, Form D, and Form E. Each of these forms was introduced in 1981 following the PATCO strike. The three forms generally have been alternated among the classes; however, in 1984 and 1985 Form E was administered to just three classes.

The mean scores on each form have increased slightly, but steadily, from 1981 to 1985. The changes in the mean scores for Form C and Form D have been about 4/10 of a standard deviation overall, which is moderate. The increase in the mean scores for Form E has been somewhat larger than the increases for the other two forms; however, the means of Form E for 1984 and 1985 are based on just a few classes.

In addition to the within-form differences just noted, some slight between form differences occur. While Form E is somewhat easier than Form D which in turn is somewhat easier than Form C, these between-form differences are very small.

Overall the performance of the students from 1981 to 1985 on the Emergency Services Skills Test is better than the performance of the students in the reference classes. (Note that the reference classes had taken an earlier form of the Emergency Services Skills Test.) In the classes from 1981 to 1985 from 51% to almost 70% of the students in some years socred at least 90 on this test, while only 44% of the students from the reference classes scored at least 90 on the version of the Emergency Services Skills Test which they took. Fewer than 10% of the students from 1981 to 1985 scored less than 80, while 25% of the students from the references classes did. In addition, the failure rate of 0.5% (6 students) from 1981 to 1985 is 1/10 of the failure rate (5%) of the reference classes.

The overall correlations of the Emergency Services Skills Test with the other skills tests and laboratory scores ranged from .254 to .362. These correlations are higher than the corresponding ones for the Preflight Skills Test and the Inflight Skills Test. Appropriately, the Emergency Services Skills Test correlates higher with the Emergency Services laboratory scores (.362) than with any other skills test or laboratory score.

Primary Laboratory Exercises

Preflight

Table 5 contains the summary statistics for the Preflight laboratory exercises for the classes from 1981 to 1985. The mean performance of the students changed very little from 1981 to 1984; however, a noticeable decline in performance occurred during 1985. In this year the mean score decreased about 4/10 of a standard deviation. Also during 1985, 9.3% of the students failed the Preflight laboratory exercises. While this percentage is about the same as that of the reference group, it is much higher than the 0.8% to 3.5% that occurred during 1981 to 1984. Overall the students from the 1981-1985 classes have performed better on the Preflight laboratory exercises than did the students from the reference classes.

The Preflight laboratory scores correlate better with the other laboratory scores than with the skills tests. The correlations of the Preflight laboratory scores with the Inflight laboratory scores and the Emergency Services laboratory scores are .525 and .471, respectively. The correlations with the skills tests range from .158 to .271, with the correlation with the Preflight Skills Test (.254) being slightly lower than the correlation with the Emergency Services Skills Test (.271).

Inflight

Table 6 contains the summary statistics for the Inflight laboratory exercises. The mean performance of the students on these exercises has declined steadily from 1981 to 1985. This decline has occurred while the scores on the Inflight Skills Test have increased steadily.

In sharp contrast to each of the other laboratory exercises and skills tests, the performance of the students in these classes on the Inflight laboratory exercises has not been as good as the performance of the students from the reference classes. The 1981-1985 classes have a lower percentage of students scoring at least 90 on the Inflight laboratory exercises and a higher percentage of failures than did the reference classes. In fact the percentage of failures on the Inflight laboratory exercises has risen dramatically from 7.9% in 1981 to 23.1% in 1985.

In a similar fashion to the Preflight laboratory scores, the Inflight laboratory scores correlate better with the other laboratory scores than with the skills tests. The overall correlations with the Preflight laboratory scores and the Emergency Services laboratory scores are .525 and .523, respectively, while the overall correlations with the skills tests range from .200 to .287. Interestingly, the correlation of the Inflight laboratory score with the Inflight Skills Test is the lowest of these overall correlations.

Emergency Services

Table 7 contains the summary statistics for the Emergency Services laboratory exercises. In a similar fashion to the Preflight laboratory exercises, the mean performance of the students from 1981 to 1984 was fairly stable, but declined noticeably in 1985. While the students from all these classes have generally performed better than the students from the reference classes, the failure rate has increased steadily from 2.5% in 1981 to 7.6% in

1984, and then jumped to 14.3% in 1985.

As was the case with the Preflight and Inflight laboratory scores, the Emergency Services laboratory scores correlate better with the other laboratory scores than with the skills tests. The correlations of the Emergency Services laboratory scores with the Preflight laboratory scores and the Inflight laboratory scores are .471 and .523, respectively, while the correlations with the skills tests range from .098 to .362.

Summary

1. There is little difference in the performance of the students on the different forms of both the Preflight Skills Test and the Emergency Services Skills Test; however, there are considerable differences in performance among the forms of the Inflight Skills Test with Form G and Form H appearing to be much easier than Form D and Form E.

2. The performance of the classes on the skills tests has increased slightly from year to year. On the other hand, the performance of the classes on the Preflight laboratory exercises and the Emergency Services laboratory exercises has been fairly stable, except for a noticeable decline on both in 1985. The performance of the classes on the Inflight laboratory exercises has declined steadily from year to year.

3. The students from the 1981 to 1985 FSS classes have performed better as a group than did the students from the reference classes, 7801-9012, on the skills tests and laboratory exercises, except for the Inflight laboratory exercises where the students from the reference classes performed better.

4. For the skills tests, the classes performed best on Emergency Services, followed by Inflight, and then by Preflight. For the laboratory exercises, the order is Emergency Services, Preflight, and Inflight.

5. The laboratory exercises correlate better among themselves than do the skills tests correlate among themselves. In addition, the laboratory exercises correlate better with the phase grade than do the skills tests despite having the same weights assigned to them in the linear transformation used to determine the composite grade.

Reference

Pickrel, E. W. (1979). Performance Standards for Pass-Fail Determinations in the National Air Traffic Flight Service Station Training Program. (FAA-AM-79-18). Washington: D.C.: Federal Aviation Administration.

Table 1

Final Grades

FSS Classes 1981 to 1985

Year	Classes	Examinees	Mean	S.D.
1981	9	121	81.20	5.15
1982	18	279	82.42	6.00
1983	18	265	82.83	5.09
1984	19	224	83.22	5.57
1985	19	258	81.88	6.85

Proportion of Examinees in Each Grade Interval

Year	90-100	80-89	70-79	Under 70
1981	.025	.636	.322	.017
1982	.082	.670	.222	.025
1983	.068	.709	.204	.019
1984	.112	.674	.192	.022
1985	.089	.597	.252	.062

Correlations with Skills Tests and Labs

Year	PFTEST	IFTEST	ESTEST	PFLAB	IFLAB	ESLAB
1981	.501	.619	.569	.652	.709	.518
1982	.416	.610	.525	.746	.803	.670
1983	.487	.373	.581	.677	.701	.661
1984	.532	.416	.524	.732	.779	.703
1985	.543	.363	.636	.774	.752	.825
All	.492	.391	.564	.734	.754	.721

Table 2

Preflight Skills Test

FSS Classes 1981 to 1985

Year	Classes	Examinees	Mean	S.D.	Form B	Form C
1981	9	122	80.38	5.54	80.38 (9)[a]	
1982	18	281	80.46	5.74	80.46 (18)	
1983	18	267	80.81	5.15	80.87 (9)	80.75 (9)
1984	19	226	81.34	5.91	81.45 (10)	81.32 (9)
1985	19	259	81.13	6.48	81.81 (11)	80.56 (8)

[a]The number in parentheses is the number of classes taking this form.

Proportion of Examinees in Each Scoring Interval

Compared to Reference Classes 7801-9012

Year	90-100	80-89	70-79	Under 70
1981	.082	.516	.393	.008
1982	.053	.548	.391	.007
1983	.045	.618	.326	.011
1984	.066	.633	.274	.027
1985	.089	.575	.313	.023
7801-9012	.041	.441	.437	.081

Correlations with Skills Tests, Final Grade, and Labs

Year	IFTEST	ESTEST	GRADE	PFLAB	IFLAB	ESLAB
1981	.264	.196	.501	.232	.262	.264
1982	.219	.248	.416	.190	.196	.130
1983	.178	.206	.487	.253	.264	.177
1984	.301	.268	.532	.266	.304	.156
1985	.252	.290	.543	.334	.335	.328
All	.231	.254	.492	.254	.268	.200

Table 3

Inflight Skills Test

FSS Classes 1981 to 1985

Year	Classes	Examinees	Mean	S.D.	Form D	Form E	Form G	Form H
1981	6	86	76.23	8.42	76.23 (6)[a,b]			
1981	3	40	84.82	6.37	84.82 (3)			
1982	18	282	87.40	4.63	86.15 (10)	88.85 (8)		
1983	18	267	89.70	5.05	86.47 (6)	89.91 (6)	93.96 (3)	92.08 (3)
1984	19	227	91.44	4.28	87.82 (4)	91.26 (6)	92.98 (4)	93.47 (5)
1985	19	260	92.60	4.15	87.96 (2)	90.43 (2)	94.33 (8)	93.06 (7)

[a] Classes 8101-8106 took an earlier version of Form D.

[b] The number in parentheses is the number of classes taking this form.

Proportion of Examinees in Each Scoring Interval

Compared to Reference Classes 7801-9012

Year	90-100	80-89	70-79	Under 70
1981	.079	.405	.373	.143
1982	.330	.624	.043	.004
1983	.592	.378	.015	.015
1984	.736	.251	.013	.000
1985	.835	.154	.008	.004
7801-9012	.081	.538	.319	.061

Correlations with Skills Tests, Final Grade, and Labs

Year	PFTEST	ESTEST	GRADE	PFLAB	IFLAB	ESLAB
1981	.264	.390	.619	.258	.387	.082
1982	.219	.439	.610	.498	.432	.376
1983	.178	.236	.373	.196	.091	.053
1984	.301	.205	.416	.141	.303	.176
1985	.252	.176	.363	.126	.321	.193
All	.231	.276	.391	.158	.200	.098

Table 4

Emergency Services Skills Test

FSS Classes 1981 to 1985

Year	Classes	Examinees	Mean	S.D.	Form C	Form D	Form E
1981	9[a]	121	88.82	8.52	88.50 (1)[b]	88.79 (1)	90.97 (1)
1982	18	279	90.44	6.84	89.54 (6)	90.39 (7)	90.93 (5)
1983	18	265	91.22	6.63	90.35 (6)	91.65 (6)	91.77 (6)
1984	19	224	91.57	5.70	90.72 (8)	92.19 (9)	93.22 (2)
1985	19	258	91.33	6.25	91.17 (10)	91.14 (8)	94.74 (1)

[a]Six classes (8101-8106) took an earlier form of Emergency Services.

[b]The number in parentheses is the number of classes taking this form.

Proportion of Examinees in Each Scoring Interval

Compared to Reference Classes 7801-9012

Year	90-100	80-89	70-79	Under 70
1981	.512	.388	.083	.017
1982	.581	.355	.057	.007
1983	.675	.242	.072	.011
1984	.696	.250	.054	.000
1985	.651	.275	.074	.000
7801-9012	.440	.310	.200	.050

Correlations with Skills Tests, Final Grade, and Labs

Year	PFTEST	IFTEST	GRADE	PFLAB	IFLAB	ESLAB
1981	.196	.390	.569	.213	.262	.190
1982	.248	.439	.525	.277	.299	.382
1983	.206	.236	.581	.238	.205	.322
1984	.268	.205	.524	.229	.287	.274
1985	.290	.176	.636	.368	.394	.501
All	.254	.276	.564	.271	.287	.362

Table 5

Preflight Laboratory Exercises

FSS Classes 1981 to 1985

Year	Classes	Examinees	Mean	S.D.
1981	9	122	86.11	6.20
1982	18	281	86.01	7.98
1983	18	267	86.98	6.20
1984	19	226	85.61	7.69
1985	19	259	82.47	9.78

Proportion of Examinees in Each Scoring Internal

Compared to Reference Classes 7801-9012

Year	90-100	80-89	70-79	Under 70
1981	.320	.516	.156	.008
1982	.327	.502	.142	.028
1983	.337	.528	.127	.007
1984	.319	.496	.150	.035
1985	.239	.421	.247	.093
7801-9012	.040	.495	.374	.091

Correlations with Skills Tests, Final Grade, and Labs

Year	PFTEST	IFTEST	ESTEST	GRADE	IFLAB	ESLAB
1981	.232	.258	.213	.652	.559	.291
1982	.190	.498	.277	.746	.635	.418
1983	.253	.196	.238	.677	.399	.312
1984	.266	.141	.229	.732	.494	.453
1985	.334	.126	.368	.774	.507	.539
All	.254	.158	.271	.734	.525	.471

Table 6

Inflight Laboratory Exercises

FSS Classes 1981 to 1985

Year	Classes	Examinees	Mean	S.D.
1981	9	126	82.46	7.67
1982	18	282	82.06	9.18
1983	18	268	80.35	8.07
1984	19	227	79.59	9.44
1985	19	258	78.21	11.50

Proportion of Examinees in Each Scoring Interval

Compared to Reference Classes 7801-9012

Year	90-100	80-89	72-79	Under 72
1981	.159	.516	.246	.079
1982	.149	.546	.209	.096
1983	.101	.478	.280	.142
1984	.119	.436	.264	.181
1985	.092	.419	.258	.231
7801-9012	.193	.553	.203	.051

Correlations with Skills Tests, Final Grade, and Labs

Year	PFTEST	IFTEST	ESTEST	GRADE	PFLAB	ESLAB
1981	.262	.387	.262	.709	.559	.341
1982	.195	.432	.299	.803	.635	.493
1983	.264	.091	.205	.701	.399	.414
1984	.304	.303	.287	.779	.494	.482
1985	.335	.321	.394	.752	.507	.593
All	.268	.200	.287	.754	.525	.523

Table 7

Emergency Services Laboratory Exercises

FSS Classes 1981 to 1985

Year	Classes	Examinees	Mean	S.D.
1981	9	121	90.78	6.59
1982	18	279	91.16	8.87
1983	18	265	89.33	8.53
1984	19	224	89.58	8.33
1985	19	258	85.42	12.65

Proportion of Examinees in Each Scoring Interval

Compared to Reference Classes 7801-9012

Year	90-100	80-89	76-79	Under 76
1981	.636	.273	.066	.025
1982	.703	.215	.043	.039
1983	.592	.283	.053	.072
1984	.576	.317	.031	.076
1985	.426	.337	.093	.143
7801-9012	.315	.470	.070	.145

Correlations with Skills Tests, Final Grade, and Labs

Year	PFTEST	IFTEST	ESTEST	GRADE	PFLAB	IFLAB
1981	.264	.082	.190	.518	.291	.341
1982	.130	.376	.382	.670	.418	.493
1983	.177	.053	.322	.661	.312	.414
1984	.156	.176	.274	.703	.453	.482
1985	.328	.193	.501	.825	.539	.593
All	.200	.098	.362	.721	.471	.523

Appendix A

Skills Tests, Laboratory Scores, and Phase Grades for FSS Classes from 1981 to 1985

CLASS	PFTEST	IFTEST	ESTEST	PFLAB	IFLAB	ESLAB	GRADE
8101	77.23 B	74.07[1]	87.27[2]	82.23	81.61	92.31	79.75
8102	79.08 B	74.14	81.21	82.48	78.25	91.42	76.85
8103	80.88 B	73.25	89.71	88.70	84.88	91.25	81.06
8104	79.38 B	75.24	88.38	83.34	78.40	90.47	79.94
8105	83.38 B	83.15	92.98	90.98	86.23	91.33	84.92
8106	78.46 B	78.85	90.55	88.75	82.92	89.62	81.38
8129	82.86 B	85.29 D	88.50 C	84.71	84.64	89.93	82.29
8131	82.14 B	84.21 D	88.79 D	84.96	83.21	90.29	81.86
8132	80.94 B	85.11 D	90.97 E	87.76	83.63	90.28	82.88
8201	78.88 B	85.19 D	89.16 C	86.27	82.41	91.03	81.88
8202	80.33 B	88.56 E	88.33 D	86.89	83.63	90.81	81.65
8203	78.80 B	90.13 E	94.55 E	87.00	83.92	92.15	84.47
8204	79.50 B	82.67 D	85.79 E	85.23	82.77	85.06	81.73
8205	81.89 B	86.56 D	90.02 D	79.97	80.64	91.13	80.61
8206	79.35 B	85.71 D	87.55 C	86.76	83.06	89.59	81.65
8207	82.47 B	86.76 D	88.53 D	81.66	79.00	92.28	81.24
8208	78.93 B	86.80 E	90.26 E	81.75	72.78	89.70	78.73
8209	82.78 B	85.11 D	90.30 C	84.85	83.92	92.89	82.28
8210	79.07 B	87.31 E	87.73 D	86.28	79.55	91.82	81.67
8213	82.14 B	90.14 E	94.17 D	89.98	84.93	96.16	86.21
8214	78.86 B	88.21 D	88.65 C	87.96	83.30	89.91	82.43
8215	79.45 B	85.73 D	90.89 C	85.09	76.86	89.43	80.73
8216	81.69 B	89.23 E	90.68 C	87.07	86.65	93.08	84.54
8219	80.56 B	88.17 D	93.12 E	86.75	84.96	95.06	84.56
8220	81.63 B	88.50 E	93.34 E	87.83	80.75	88.91	82.25
8223	80.25 B	87.44 D	90.83 D	90.53	84.23	88.92	83.38
8224	80.56 B	90.11 E	93.08 D	87.29	82.67	91.01	83.61
8301	81.29 B	88.35 E	90.73 D	91.40	86.12	92.41	85.47
8302	81.44 C	86.56 D	91.54 E	85.68	80.92	90.64	82.50
8303	79.33 B	85.17 D	90.46 E	85.04	78.63	87.71	80.89
8304	78.89 C	89.61 E	90.63 C	86.38	78.74	86.10	81.06
8305	80.56 C	88.72 D	91.96 E	85.60	83.71	87.85	83.00
8306	81.20 B	91.87 E	91.05 C	86.90	83.60	90.20	84.74
8307	82.55 B	84.36 D	91.81 E	83.80	81.52	91.59	82.09
8308	82.13 C	89.40 E	94.25 D	88.15	80.87	94.67	85.08
8309	80.62 C	93.85 G	90.61 C	85.69	79.02	86.65	81.77
8310	83.43 B	92.71 H	87.60 D	88.09	81.70	90.02	83.14
8311	81.00 C	90.33 E	90.89 C	87.71	78.81	90.52	83.25
8312	79.60 B	92.10 H	92.68 E	89.80	84.35	90.03	84.90
8313	82.25 C	86.56 D	92.09 D	88.94	82.44	92.14	84.82
8314	80.93 B	93.40 G	92.20 E	82.75	77.34	86.12	81.07
8315	80.71 B	91.43 H	89.08 C	85.27	74.59	88.45	80.29
8316	80.88 C	94.63 G	92.86 D	88.19	77.55	88.50	83.94
8317	78.83 B	87.41 D	92.35 D	89.25	77.27	87.46	82.00
8318	79.20 C	89.87 E	89.83 C	87.67	78.78	88.45	81.67

CLASS	PFTEST	IFTEST	ESTEST	PFLAB	IFLAB	ESLAB	GRADE
8401	82.60 C	94.10 G	93.76 C	88.68	82.43	84.20	84.60
8402	80.91 B	88.64 D	93.63 D	91.14	84.59	92.20	85.64
8403	82.50 B	89.92 E	92.57 C	89.81	80.71	88.16	84.09
8404	84.73 C	92.45 H	93.26 D	87.64	81.66	92.30	86.00
8405	80.89 C	91.11 D	95.10 C	88.06	86.81	93.72	87.11
8406	76.10 B	91.80 E	90.79 D	85.68	78.85	90.50	81.50
8407	80.89 C	91.70 G	93.47 E	89.56	83.98	89.75	85.67
8408	83.25 B	93.63 H	87.16 C	87.00	82.31	89.84	84.13
8409	77.53 C	86.93 D	89.88 D	84.82	74.67	89.03	80.40
8410	80.38 B	90.75 E	89.37 C	84.23	81.77	90.19	82.56
8411	81.83 B	93.33 G	91.70 D	85.67	80.67	88.50	83.08
8413	82.80 B	90.10 E	87.85 C	84.20	76.20	91.60	82.60
8414	81.33 C	94.25 H	91.76 D	84.27	81.92	91.04	83.67
8415	84.55 B	94.18 E	94.65 D	90.77	85.11	93.18	88.27
8416	81.45 C	92.91 H	90.54 C	83.50	67.50	81.64	79.09
8417	79.67 C	84.58 D	92.98 E	80.25	74.19	85.19	79.00
8418	80.67 B	90.83 E	91.86 D	84.19	75.06	89.58	82.08
8419	82.78 C	92.78 G	89.43 C	80.94	79.40	87.93	81.67
8420	81.53 B	94.12 H	92.18 D	83.35	78.69	93.55	83.88
8501	79.06 C	88.25 D	94.74 E	89.31	79.17	87.14	83.50
8502	84.75 B	92.56 E	92.45 C	85.91	79.14	87.70	84.00
8503	79.86 B	94.64 G	89.60 D	82.07	82.29	84.05	80.29
8504	80.07 C	93.86 H	92.71 C	83.41	80.88	89.92	84.69
8505	77.33 B	88.31 E	89.49 C	82.37	65.91	78.87	76.20
8506	82.67 C	87.67 D	91.37 D	84.05	76.47	89.62	81.60
8507	82.14 C	92.14 G	90.15 D	85.89	82.07	87.66	83.86
8508	80.23 B	93.15 H	90.14 C	81.04	79.79	82.94	81.69
8509	79.43 C	92.50 H	90.44 D	85.52	81.64	89.27	83.43
8510	82.89 B	95.33 G	92.24 C	87.78	84.39	92.44	86.33
8511	75.00 C	93.56 G	90.66 D	75.75	70.91	76.30	77.19
8512	78.67 B	92.42 H	84.18 C	77.88	65.31	79.67	76.08
8514	81.83 B	95.33 G	92.83 C	79.40	79.79	87.81	82.58
8515	84.55 B	95.82 G	93.27 D	77.77	82.59	88.52	84.09
8516	85.50 B	93.50 H	96.20 C	86.83	82.31	93.75	86.83
8517	83.86 B	93.57 G	88.94 D	74.96	75.45	79.29	78.50
8518	84.50 C	92.25 H	90.63 C	82.69	78.19	83.60	81.92
8519	80.43 B	94.29 G	94.66 D	84.89	83.98	84.54	84.00
8520	81.63 C	93.75 H	90.77 C	79.48	80.38	84.64	81.81

[1]An earlier version of Form D was given to classes 8101 to 8106.

[2]An earlier version of the Emergency Services Skills Test was given to classes 8101 to 8106.

END

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