

Advanced Placement Credit vs. Regular Instruction Credit

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<http://www.oir.uga.edu>



Motivation

- Who: AP Task Force made up of UGA faculty and administrators working with the Office of Institutional Research.
- What: Study the impact of advanced placement (CB) credit on the academic success of undergraduates.
- Why: Ensure that decisions regarding the awarding of AP credit allow students to experience classroom success.



Scope of Study

- Data was from the UGA/OIR Data Repository (incl. course history, FTF cohorts, test scores)
- The first time freshman (FTF) IPEDS cohorts for 2003 – 2008 were included in this study.
- Course outcomes (grades) for two freshmen course sequences (English and chemistry) were considered.



Nationally, between 2003 and 2008:

- The number of students taking an AP exam increased by 53%.
- The number of AP exams administered increased by 55%.

Source: The College Board

Summary of AP (CB) Courses and AP Hours by FTF Cohort

Cohort	N	# taking AP	% of Cohort	# AP Courses	Avg # AP Courses/ FTF	# AP Hours	Avg AP Hours/ FTF
2003	5,156	2,557	49.6%	7,068	2.8	21,747	8.5
2004	4,500	2,568	57.1%	7,313	2.8	22,568	8.8
2005	4,654	2,885	62.0%	8,608	3.0	26,548	9.2
2006	5,059	3,220	63.6%	9,947	3.1	30,674	9.5
2007	4,675	3,160	67.6%	10,318	3.3	32,711	10.4
2008	4,778	3,440	72.0%	12,210	3.5	38,558	11.2

FTF Cohorts 2003-2008

Average Predicted GPA

	Cohort		With AP Credit		With No AP Credit	
Cohort	N	Avg Pred GPA	N	Avg Pred GPA	N	Avg Pred GPA
2003	5,156	3.08	2,557	3.21	2,599	2.95
2004	4,500	3.15	2,568	3.24	1,932	3.02
2005	4,654	3.28	2,885	3.37	1,769	3.12
2006	5,059	3.30	3,220	3.40	1,839	3.14
2007	4,675	3.34	3,160	3.42	1,515	3.18
2008	4,778	3.36	3,440	3.42	1,338	3.20

FTF Cohorts 2003-2008

Average Cumulative 1st Year GPA

Cohort	Cohort		With AP Credit		With No AP Credit	
	N	Avg Cum 1 st yr. GPA	N	Avg Cum 1 st yr. GPA	N	Avg Cum 1 st yr. GPA
2003	5,156	3.16	2,557	3.35	2,599	2.97
2004	4,500	3.22	2,568	3.37	1,932	3.03
2005	4,654	3.20	2,885	3.34	1,769	2.97
2006	5,059	3.15	3,220	3.29	1,839	2.91
2007	4,675	3.19	3,160	3.28	1,515	2.99
2008	4,778	3.24	3,440	3.32	1,338	3.03

Analysis

- FTF Cohort Data 2003-2008
- Two Freshman Course Sequences:
 - ENGL1101 and ENGL1102
(English Composition I and II)
 - CHEM1211 and CHEM1212
(Freshman Chemistry I and II)

Variables of Interest

□ Credit Group:

AP – Student earned course credit for the first course of sequence via AP exam.

RI – Student earned course credit for the first course of sequence via regular class instruction.

OT – Student earned course credit for the first course of sequence via other exemption (incl. joint enrollment, departmental exams, IB, etc)

□ Course Outcome:

As measured by **grade** in the second course of the two course sequence

Analysis

Objective: Compare the grade distribution in the 2nd course of a two course sequence between the three credit groups: AP, RI, and OT controlling for cohort year.

Approach: Multinomial response model to evaluate the 3-way contingency table of grade, cohort and credit group.

Agresti, A. (1990). *Categorical Data Analysis*. New York, NY: John Wiley & Sons.

English Composition I and II

Number of Students with an ENGL1102 Course Outcome by Credit Group and FTF Cohort Year

Cohort	N (Cohort)	N (ENGL1102)	AP (ENGL1101)	RI (ENGL1101)	OT (ENGL1101)
2003	5,156	3,520	768	2,222	530
2004	4,500	3,081	898	1,610	573
2005	4,654	3,199	1,065	1,645	489
2006	5,059	3,455	1,200	1,739	516
2007	4,675	3,160	1,257	1,478	425
2008	4,778	3,164	1,375	1,352	437
Total	28,822	19,579	6,563	10,046	2,970
			33.5%	51.3%	15.2%

Grade Distribution by Cohort and Credit Group

ENGL 1102	ENGL1101 credit by AP Exam Exemption						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	43.88	43.65	42.82	43.17	41.93	39.13	42.18
B	45.57	47.22	49.20	48.92	49.96	55.05	49.82
C	9.38	7.24	6.76	5.67	6.44	4.00	6.29
D	0.26	0.00	0.00	0.08	0.08	0.07	0.08
F	0.00	0.11	0.00	0.33	0.24	0.15	0.15
W	0.91	1.78	1.22	1.83	1.35	1.60	1.48
n	768	898	1,065	1,200	1,257	1,375	6,563

Grade Distribution by Cohort and Credit Group

ENGL 1102	ENGL1101 credit by AP Exam Exemption						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	43.88	43.65	42.82	43.17	41.93	39.13	42.18
B	45.57	47.22	49.20	48.92	49.96	55.05	49.82
C	9.38	7.24	6.76	5.67	6.44	4.00	6.29
D	0.26	0.00	0.00	0.08	0.08	0.07	0.08
F	0.00	0.11	0.00	0.33	0.24	0.15	0.15
W	0.91	1.78	1.22	1.83	1.35	1.60	1.48
n	768	898	1,065	1,200	1,257	1,375	6,563

ENGL 1102	ENGL1101 credit by Regular Instruction						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	24.48	30.37	32.16	28.35	32.07	35.65	29.97
B	54.14	53.17	52.77	56.47	55.48	51.85	54.05
C	18.36	12.42	11.49	12.94	9.00	8.06	12.58
D	0.63	0.81	0.67	0.52	0.47	0.44	0.60
F	0.41	0.25	0.18	0.23	0.14	0.15	0.24
W	1.98	2.98	2.74	1.50	2.84	3.85	2.56
n	2,222	1,610	1,645	1,739	1,478	1,352	10,046

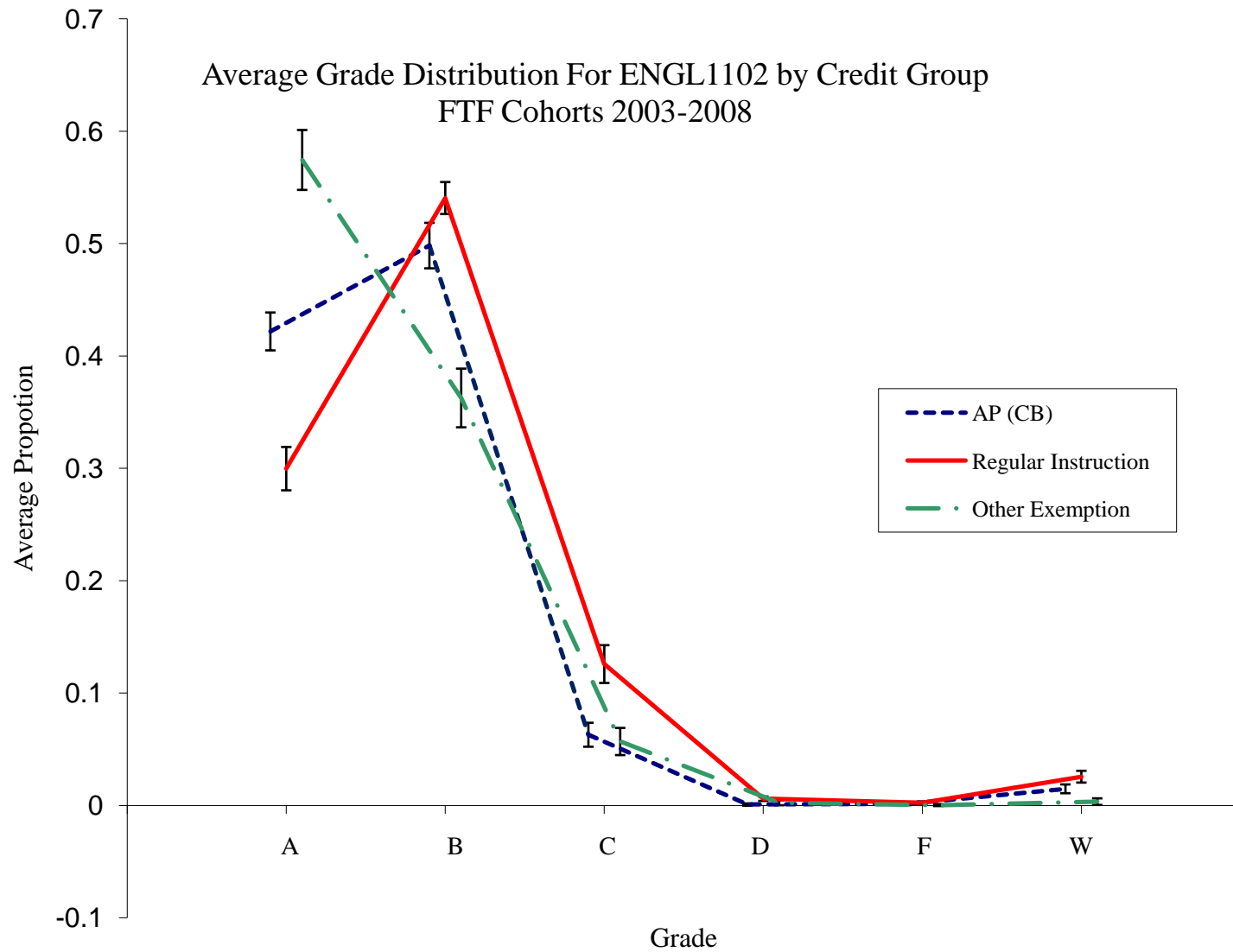
Grade Distribution by Cohort and Credit Group

ENGL 1102	ENGL1101 credit by AP Exam Exemption						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	43.88	43.65	42.82	43.17	41.93	39.73	42.18
B	45.57	47.22	49.20	48.92	49.96	55.05	49.82
C	9.38	7.24	6.76	5.67	6.44	4.00	6.29
D	0.26	0.00	0.00	0.08	0.08	0.07	0.08
F	0.00	0.11	0.00	0.33	0.24	0.15	0.15
W	0.91	1.78	1.22	1.83	1.35	1.60	1.48
n	768	898	1,065	1,200	1,257	1,375	6,563

ENGL 1102	ENGL1101 credit by Regular Instruction						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	24.48	30.37	32.16	28.35	32.07	35.65	29.97
B	54.14	53.17	52.77	56.47	55.48	51.85	54.05
C	18.36	12.42	11.49	12.94	9.00	8.06	12.58
D	0.63	0.81	0.67	0.52	0.47	0.44	0.60
F	0.41	0.25	0.18	0.23	0.14	0.15	0.24
W	1.98	2.98	2.74	1.50	2.84	3.85	2.56
n	2,222	1,610	1,645	1,739	1,478	1,352	10,046

ENGL 1102	ENGL1101 credit by Other Exemption						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	53.77	60.56	61.15	54.84	53.88	60.18	57.44
B	38.68	33.33	31.90	37.02	41.65	35.93	36.26
C	6.79	5.93	5.93	7.36	4.24	3.20	5.69
D	0.38	0.17	0.41	0.39	0.00	0.00	0.24
F	0.00	0.00	0.00	0.19	0.00	0.00	0.03
W	0.38	0.00	0.61	0.19	0.24	0.69	0.34
n	530	573	489	516	425	437	2,970

Average Grade Distribution For ENGL1102 by Credit Group
FTF Cohorts 2003-2008



Freshman Chemistry I and II

Number of Students with a CHEM1212 Course Outcome by Credit Group and FTF Cohort Year

Cohort	N (Cohort)	N (CHEM1212)	AP (CHEM1211)	RI (CHEM1211)	OT (CHEM1211)
2003	5,156	1,169	31	1,120	18
2004	4,500	1,084	32	1,034	18
2005	4,654	1,094	44	1,033	17
2006	5,059	1,188	34	1,138	16
2007	4,675	1,138	42	1,079	17
2008	4,778	1,163	62	1,077	24
Total	28,822	6,836	245	6,481	110
			3.6%	94.8%	1.6%

Grade Distribution by Cohort and Credit Group

CHEM 1212	CHEM1211 credit by AP Exam Exemption						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	51.61	62.50	88.64	38.24	66.67	59.68	62.45
B	32.26	28.13	4.55	41.18	23.81	27.42	25.31
C	6.45	6.25	4.55	8.82	4.76	8.06	6.53
D	3.23	0.00	0.00	0.00	0.00	3.23	1.22
F	0.00	0.00	0.00	2.94	4.76	0.00	1.22
W	6.45	3.13	2.27	8.82	0.00	1.61	3.27
n	31	32	44	34	42	62	245

Grade Distribution by Cohort and Credit Group

CHEM 1212	CHEM1211 credit by AP Exam Exemption						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	51.61	62.50	88.64	38.24	66.67	59.68	62.45
B	32.26	28.13	4.55	41.18	23.81	27.42	25.31
C	6.45	6.25	4.55	8.82	4.76	8.06	6.53
D	3.23	0.00	0.00	0.00	0.00	3.23	1.22
F	0.00	0.00	0.00	2.94	4.76	0.00	1.22
W	6.45	3.13	2.27	8.82	0.00	1.61	3.27
n	31	32	44	34	42	62	245

CHEM 1212	CHEM1211 credit by Regular Instruction						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	26.88	35.40	36.52	22.50	20.39	17.46	24.76
B	31.52	34.72	37.37	36.73	34.85	36.30	35.23
C	27.50	18.38	20.81	26.89	29.84	26.56	25.10
D	7.05	4.93	5.42	5.80	5.65	4.92	5.65
F	3.04	1.64	2.32	1.93	2.41	1.11	2.08
W	4.02	4.93	7.55	6.15	6.86	13.65	7.17
n	1,120	1,034	1,033	1,138	1,079	1,077	6,481

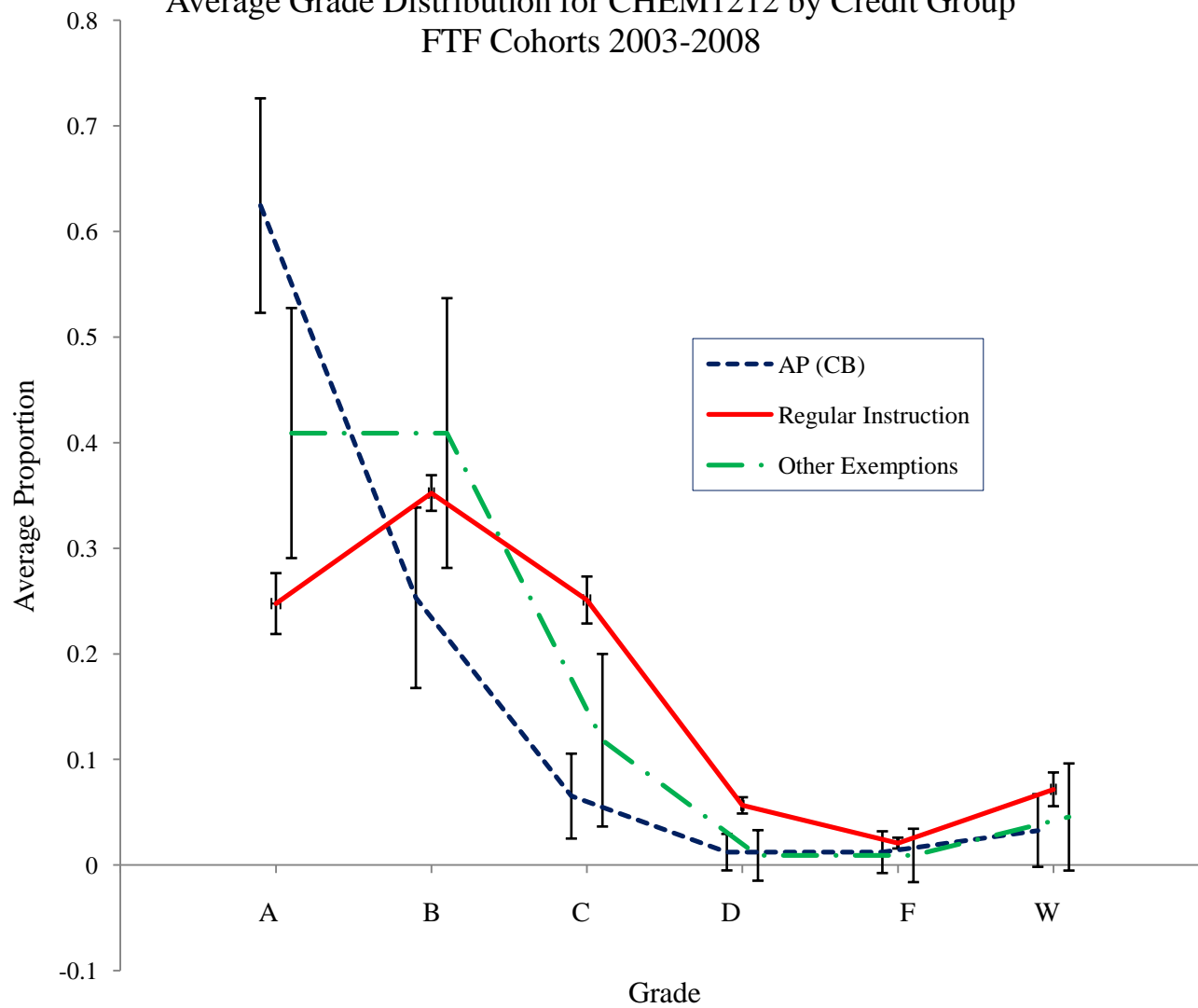
Grade Distribution by Cohort and Credit Group

CHEM 1212	CHEM1211 credit by AP Exam Exemption						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	51.61	62.50	88.64	38.24	66.67	59.68	62.45
B	32.26	28.13	4.55	41.18	23.81	27.42	25.31
C	6.45	6.25	4.55	8.82	4.76	8.06	6.53
D	3.23	0.00	0.00	0.00	0.00	3.23	1.22
F	0.00	0.00	0.00	2.94	4.76	0.00	1.22
W	6.45	3.13	2.27	8.82	0.00	1.61	3.27
n	31	32	44	34	42	62	245

CHEM 1212	CHEM1211 credit by Regular Instruction						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	26.88	35.40	36.52	22.50	20.39	17.46	24.76
B	31.52	34.72	37.37	36.73	34.85	36.30	35.23
C	27.50	18.38	20.81	26.89	29.84	26.56	25.10
D	7.05	4.93	5.42	5.80	5.65	4.92	5.65
F	3.04	1.64	2.32	1.93	2.41	1.11	2.08
W	4.02	4.93	7.55	6.15	6.86	13.65	7.17
n	1,120	1,034	1,033	1,138	1,079	1,077	6,481

CHEM 1212	CHEM1211 credit by Other Exemption						
Grade	2003	2004	2005	2006	2007	2008	Overall
A	50.00	33.33	41.18	31.25	47.06	41.67	40.91
B	11.11	55.56	41.18	50.00	41.18	45.83	40.91
C	22.22	11.11	11.76	18.75	0.00	8.33	11.82
D	5.56	0.00	0.00	0.00	0.00	0.00	0.91
F	0.00	0.00	0.00	0.00	5.88	0.00	0.91
W	11.11	0.00	5.88	0.00	5.88	4.17	4.55
n	18	18	17	16	17	24	110

Average Grade Distribution for CHEM1212 by Credit Group
FTF Cohorts 2003-2008



Summary

Between 2003 and 2008:

- The number of freshmen entering UGA with AP credit increased ~ 34%.
- The number of AP courses taken by FTF freshmen, and the corresponding number of credit hours earned, increased by 73% and 77% respectively.

Summary

- There is a significant difference in the 2nd semester grade distribution for both freshman English and chemistry between students earning 1st semester credit via AP exemption vs. regular classroom instruction.
- Students in the AP credit group on average earn more A's and B's, while the RI credit group earn more B's and C's.



Future Questions:

- Compare course outcomes between AP and non-AP students for core courses in other disciplines: ie, math, history, foreign languages.
- Evaluate the “cut-scores” currently used to award AP credit.

Future Questions

Compare AP and non-AP students on:

- ❑ The number of semester hours taken
- ❑ Time to degree
- ❑ Number of students pursuing a dual degree and/or multiple major
- ❑ Ability to retain HOPE scholarship
- ❑ Other???