



OAKLAND
COMMUNITY
COLLEGE

**Oakland Community College
Business Law Prerequisite Study
March 2005**

Final Report

Requested by

Marty Orłowski, Director of Institutional Effectiveness
Mike Smydra, Business Department
Oakland Community College

Prepared by
Mark Woods, Ph.D., Research Analyst
The Office of Institutional Research
March 2005

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Introduction/ Summary

Query data for BUS 2030 and BUS 1100 were gathered to determine the predictive nature of a prerequisite course (BUS 1100) on the success of the subsequent course (BUS 2030). Findings indicate that there is almost no association between the two. That is, BUS 1100 does not predict success in BUS 2030. However, using GPA as a measure of success, there is some evidence to show that a positive association between taking BUS 1100 and achieving success in BUS 2030 exists, albeit, moderate and somewhat contradictory.

Research Questions

The relationship between Business Law (BUS 2030) and Intro to Business (BUS 1100) was examined. The following research questions were posed:

1. To what extent do students enroll in BUS 1100 prior to BUS 2030?
2. Does enrollment in BUS 1100 predict success in BUS 2030?
3. Does success in BUS 1100 predict success in BUS 2030?

Method

Using Query Builder, the following code will create a list of BUS 2030 students:

```
* Statement Builder save script

If Not(IsDialog(Query)) Then
  Script 'query\querydlg.wis'
  If Not(IsDialog(Query)) Then
    MessageBox 'Unable to load Query builder','Query',
MB_ICONHAND|MB_OK
  EndScript
  EndIf
EndIf
If IsShown(Query) Then
  If Version >= "4.1.1" Then
    Query.Verb.Text = `LIST`
  Else DialogBox Select Query,Verb, `LIST`
Else Query.Verb=`LIST`
Query.File=`STUDENT.COURSE.SEC`
Query.Items = `WITH STC.COURSE.NAME = "BUS-2030"`
Query.Sort = ``
Query.Output = `STC.PERSON.ID STC.COURSE.NAME STC.TERM
STC.VERIFIED.GRADE`
Query.Heading=``
Query.Footing=``
Query.GrandTotal=``
Query.HdrSup=0
```

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```
Query.DetSup=0
Query.ColSup=0
Query.IdSup=0
Query.OutputTo='Screen'
Query.Before=''
Query.After=''
If IsShown(Query) Then
    Library `query\query`
    EnableOutputOptions
Else Script `query\query`,1
```

This query was then saved as an Excel file. A second query was run with the following item changed from:

```
Query.Items = `WITH STC.COURSE.NAME = "BUS-2030"``
```

to

```
Query.Items = `WITH STC.COURSE.NAME = "BUS-1100"``
```

These queries pulled all students who have enrolled in BUS 2030 or BUS 1100. These files were converted to SPSS ".sav" files. For the BUS 2030 students, students were selected by the set terms:

Summer II 2003
Fall 2003
Winter 2004
Summer I 2004

Variables were renamed to reflect BUS 2030 or BUS 1100 grades, and the data were merged, then unduplicated.

Using transcribed grades, grades issued were recoded as follows:

A = 11
A- = 10
B+ = 9
B = 8
B- = 7
C+ = 6
C = 5
C- = 4
D+ = 3
D = 2
F = 1

Missing, Withdrew, Incomplete, Non-Attendant, etc. = 0

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Analysis

There were cases where students have repeated either BUS 2030 or BUS 1100 (or both). As a result, determination of success becomes problematic when correlating results. Examination of the data indicated that the most recent grade was included in the first case.

Results

To what extent do students enroll in BUS 1100 prior to BUS 2030?

From the data, 742 of 1408 enrolled in BUS 1100 and BUS 2030.

Does enrollment in BUS 1100 predict success in BUS 2030?

The correlation between BUS 1100 grades (mean= 5.91, or about a C+) and BUS 2030 grades (mean= 5.16, or about a C) was $r = .278$ $p < .001$ ($n=742$), and while it was statistically significant, the association is moderately weak.

In addition, comparisons were made between grades among BUS 2030 students, looking at those who took BUS 1100 and BUS 2030 versus those who simply took BUS 2030. Grades were compared using the transcribed recoded grading scale outlined in the Methods section.

Independent sample t-test ($t(1406df) = 1.53$, n.s.) indicated that there was no difference between BUS 2030 groups (those who took BUS 1100 and those who only took BUS 2030).

	Took BUS 1100 ($n=742$)	Did Not Take BUS 1100 ($n=666$)
BUS 2030 Grade (Average)	4.98	5.35

(Note: See Methods section-- scale moves from 0-11 with 0 representing withdrawals and non-attendant, 11 represents an 'A')

It should be noted that the modal grade for BUS 1100 students was 0. That is, most students (27%) did not actually receive a grade, but were either missing, withdrawn, non-attendant, etc. This leads to the question of success in BUS 1100 leading to success in BUS 2030.

Does success in BUS 1100 predict success in BUS 2030?

Just looking at those who received a C or better in BUS 1100 (mean= 8.74, or nearly a B+), the correlation actually seems to drop ($r = .184$, $p < .001$ ($n=488$)). Again, this figure is statistically significant, but the associative strength is quite low.

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Discussion

Just over half of BUS 2030 students (53%) had enrolled in BUS 1100. However, the data indicate that there is a mild correlation between enrollment or success in BUS 1100 and success in BUS 2030. In fact, comparisons indicate no differences between students who took BUS 1100 and those who did not. Furthermore, it may be stated that students do better when they do not enroll in BUS 1100.

It can be argued that withdrawals, non-attendants, and any non-grade may downwardly skew the results. Using this argument, one can run similar analyses using GPA scores. However, this measure does not accurately reflect drop-out rates, and so has inherent limitations.

To that end, the correlation between BUS 1100 GPA (Mean= 3.01 (note 4.0 scale), n= 542) and BUS 2030 GPA(mean= 2.91, n=919) is $r = .385$ $p < .001$. This is a moderately positive correlation. That is, there seems to be a slightly stronger association between the variables.

And, of those who received a GPA 2.0 or better, the correlation remains moderate and positive ($r = .352$, $p < .001$).

Independent sample t-test reveal significant differences ($t(917) = 3.11$, $p = .002$). That is, those who took BUS 1100 differed from those who only took BUS 2030. However, it would seem that those who took BUS 1100 did not score as well as those who only enrolled in BUS 2030. Mean scores are shown below.

	Took BUS 1100 (n=488)	Did Not Take BUS 1100 (n=431)
BUS 2030 Grade Point Average	2.80	3.04

The conclusion reached is that there is relatively weak evidence to show that BUS 1100 leads to success in BUS 2030.

Office of Institutional Research
Project Summary:

Business Law Prerequisite Study

ID:	2316	IR Category:	Program Review
Requester	Smydra, Mike	Project Type:	Ad Hoc
Date Requested	16-Feb-05	Status:	Active
Expected Completion	15-Mar-05	Assigned To:	Woods, M.
Actual Completion:			

Description: Marty Orłowski has requested a study on behalf of Mike Smydra to investigate the relationship between Business Law and the prerequisite course Intro to Business. Questions: To what extent do students enroll in BUS 1100 prior to BUS 2030. Does enrollment in 1100 predict success in 2030? Does success in 1100 predict success in 2030?.

Methodology: All students who enrolled in 2030 during 2003-04. Data source: End of Session files for the four terms. Significance testing and correlation of grades between 1100 and 2030.

Major Findings:

Showers, Nancy C

From: Orłowski, Martin A
Sent: Wednesday, March 23, 2005 10:20 AM
To: Smydra, Michael J
Cc: Woods, Mark G; Showers, Nancy C
Subject: FW: BUS prerequisite report

Importance: High

Mike,

Per your request the Office of Institutional Research has prepared the attached report concerning the relationship between Introduction to Business and Business Law.

I trust both the report and series of attached e-mail discussions will assist you and the Business discipline as you consider changes to prerequisites.

Please feel free to contact Mark Woods in IR if you have any questions concerning the content and methodology of the analysis.



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(195 KB)

Martin A. Orłowski, Director,
Office of Assessment & Effectiveness
Oakland Community College
(248) 522-3882

-----Original Message-----

From: Woods, Mark G
Sent: Wednesday, March 23, 2005 10:03 AM
To: Orłowski, Martin A
Cc: Showers, Nancy C
Subject: RE: BUS prerequisite report

Marty,

I would guess that other factors certainly do play a part in this. In fact, at best, GPA is accounting for only 15% of the variance. We could run a multiple regression looking at a variety of factors (though I'd have to think about how we'd quantify and scale the ones you mentioned) to see which factors were the biggest or best predictors.

If I had to speculate based on the information from the report, I'd say that the reason students who only took BUS 2030 did better is because they came into the class as a better student (quick t-test comparison reveals that these students took more credits overall and received higher overall GPAs). So, it might be unfair to make that comparison. That is, we would expect better students to do better in courses of any kind.

Now, the real question is that will BUS 1100 be of help to students? Clearly, those with higher GPAs seem not to need it. However, there is some evidence that BUS 1100 helps those a little in BUS 2030. The relationship is admittedly small.

If BUS 1100 were eliminated, I'd have to say that it most likely would have a rather small negative impact on only those who would have had some benefit from taking it.

My recommendation would be to require BUS 1100 to those who do not meet minimum standards (i.e. GPA, placement

testing, or business experience). More importantly, I'd try to overhaul BUS 1100 to be more complementary to BUS 2030, that is, gear it specifically for success in BUS 2030. At the very least, I'd have counselors recommend BUS 1100 for those students that might be more academically disadvantaged.

Mark

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-----Original Message-----

From: Orlowski, Martin A
Sent: Wednesday, March 23, 2005 9:06 AM
To: Woods, Mark G
Cc: Showers, Nancy C
Subject: RE: BUS prerequisite report

Mark,

This is a very interesting report. At this point I'm not asking for additional analysis, but I wonder if other factors such as a students prior college experience (not at OCC), work experience (in business), other courses taken at OCC, etc. might explain why performance in Business Law isn't linked to the prerequisite Introduction to Business course.

From your analysis could you conclude that eliminating the prerequisite of Introduction to Business would likely have no impact on success in Business Law?

Martin A. Orlowski, Director,
Office of Assessment & Effectiveness
Oakland Community College
(248) 522-3882

-----Original Message-----

From: Woods, Mark G
Sent: Tuesday, March 22, 2005 11:32 AM
To: Orlowski, Martin A
Cc: Showers, Nancy C
Subject: BUS prerequisite report

Marty,

My apologies for the delay in getting this information to you. I wanted to make sure we got queried data, rather than using the static SAV files.

In sum, there is no real difference in grades when you include withdrawals, but a difference exists among GPA scores. However, it would seem that those who did not take BUS 1100 received higher marks for BUS 2030. In contrast, there is a positive correlation between GPA scores for BUS 1100 and BUS 2030 (and between calculated grades for both courses), thus indicating that as grades increase in BUS 1100, so too, does BUS 2030. As noted, the association is moderate at best, and given the t-test results, strangely contradictory. The best one can conclude is that BUS 1100 seems to help a bit for those who take BUS 2030, but those who only took BUS 2030 scored higher (slightly).

I think this study may raise more questions than it answers, but I hope it at least helps to open a dialogue for further discussion. If you have any questions, please feel free to call (ext. 4864) or email me.

Best,

Mark

<< File: BUSprerequisite.pdf >>

Mark Woods, Ph.D.

Research Analyst, Oakland Community College
3903 W. Hamlin Rd.
Rochester Hills, MI 48309-3233
(248) 232-4864

Business Law Prerequisite Study

Research Questions

1. To what extent do students enroll in the prerequisite Introduction to Business (BUS 1100) prior to enrolling in Business Law (BUS 2030).
2. To what extent does enrollment in the prerequisite Introduction to Business (BUS 1100) predict student success in Business Law (BUS 2030).
3. To what extent does success in the prerequisite Introduction to Business (BUS 1100) predict student success in Business Law (BUS 2030).

Methodology

Population

All students who enrolled in Business Law (BUS 2030) during academic year 2003-04 (Summer 2003, Fall 2003, Winter 2004, Spring 2004)

Data Source

- End-of-Session files for the four terms.

Analysis (Note: IR may suggest modifications and/or additional ways of analyzing the data.)

- Significance testing
- Correlate grades between BUS 1100 and BUS 2030

Note: Time table to be determined by IR.