The Pluses and Minuses of Policy Analysis: Predicting the Impact of a New Grading Policy

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• University Senate policy assigning graduated numerical values to plus and minus grades – Fall 2005
  – Passed assuming no financial impact
  – Minus earns .3 less and plus earns .3 more

• Prior to policy change, plus/minus grades assigned, but all grades with same letter had same numeric value

• Current analysis: identify potential financial and academic impacts for University and undergraduate students
• Potential positives of plus/minus grading systems:
  – Incentive to work hard all term
  – Rewards students at multiple levels - better distinguish the quality of graduates
  – Increased grading accuracy
  – No overall GPA change at the institution for any given semester
  – Graduate school admissions - tool to help committees distinguish between students

• Potential Negatives:
  – the decrease in the number of 4.0 graduates
  – Increased negative impact on lower GPAs
  – Negative impact on 3.5 - 4.0 students - students perceived potential for loss of scholarship
  – Increased grade appeals, and increased grade changes

• Unaddressed by these studies
  – Cumulative impact on GPA
  – Financial implications beyond administrative costs to the institution

• Still debated: Grade Inflation
Issues for UM

• How do the adjusted numeric values impact the GPAs of students over time?
  – What happens with probation and dismissal (which are based on a 2.0 GPA)?
  – How many students would be negatively impacted?

• Do the C- and D- grades fulfill CORE and program requirements?
  – If not, how will that impact course availability and progress toward a degree?
Methodology

**Impact on GPA Over Time**
- Recalculate UG GPA of Fall 2002 New Frosh Cohort
  - UM reported plus and minuses since 2002 w/o weights
- Recalculate Academic Actions
  - Determine which students would be on probation or dismissed given the new policy

**Impact on Course Availability**
- Calculate the number of C- per course to estimate repeat impact
  - C- would be below the 2.0 grade needed to pass a course
First Semester Cumulative GPA Change

Impact of Fall 2002 Cumulative GPA Change Under New Policy

Original GPA Ranges

% w/ a Positive or Negative Change to their Current GPA
First Semester Cumulative GPA Change

Impact of Fall 2002 Cumulative GPA Change Under New Policy

Original GPA Ranges

Number w/ a Positive or Negative Change to their Current GPA

- No
- Pos
- Neg
Second Semester Cumulative GPA Change

Impact of Spring 2003 Cumulative GPA Change Under Alternate New Policy

% w/ a Positive or Negative Change to their Current GPA

Original GPA Ranges
Second Semester Cumulative GPA Change

Impact of Spring 2003 Cumulative GPA Change Under Alternate New Policy

Original GPA Ranges
Third Semester Cumulative GPA Change

Impact of Fall 2003 Cumulative GPA Change Under Alternate New Policy

% w/ a Positive or Negative Change to their Current GPA

Original GPA Ranges
Fourth Semester Cumulative GPA Change

Impact of Fall 2003 Cumulative GPA Change Under Alternate New Policy

Number w/ Positive or Negative Change to their Current GPA

Original GPA Ranges

<table>
<thead>
<tr>
<th>Original GPA Ranges</th>
<th>Number w/ Positive Change</th>
<th>Number w/ Negative Change</th>
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</thead>
<tbody>
<tr>
<td>2.0 and Below</td>
<td>100</td>
<td>50</td>
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<tr>
<td>2.1 - 2.2</td>
<td>150</td>
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<td>2.5 - 2.6</td>
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<td>200</td>
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<td>2.7 - 2.8</td>
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<td>2.9 - 3.0</td>
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<td>400</td>
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<td>3.5 - 3.6</td>
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<td>3.7 - 3.8</td>
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<td>500</td>
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<tr>
<td>3.9 and Higher</td>
<td>600</td>
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</table>
Fifth Semester Cumulative GPA Change

Impact of Spring 2004 Cumulative GPA Change Under Alternate New Policy

% w/ a Positive or Negative Change to their Current GPA

Original GPA Ranges

Pos%
Neg%
Fifth Semester Cumulative GPA Change

Impact of Spring 2004 Cumulative GPA Change Under Alternate New Policy

Number w/ a Positive or Negative Change to their Current GPA

Original GPA Ranges

<table>
<thead>
<tr>
<th>GPA Range</th>
<th>No</th>
<th>Pos</th>
<th>Neg</th>
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<tr>
<td>3.9 and Higher</td>
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</table>
Sixth Semester Cumulative GPA Change

Impact of Fall 2004 Cumulative GPA Change Under Alternate New Policy

% w/ a Positive or Negative Change to their Current GPA

Original GPA Ranges

- 2.0 and Below
- 2.1 - 2.2
- 2.3 - 2.4
- 2.5 - 2.6
- 2.7 - 2.8
- 2.9 - 3.0
- 3.1 - 3.2
- 3.3 - 3.4
- 3.5 - 3.6
- 3.7 - 3.8
- 3.9 and Higher

- Pos%
- Neg%
Sixth Semester Cumulative GPA Change

Impact of Fall 2004 Cumulative GPA Change Under Alternate New Policy

Number with a Positive or Negative Change to their Current GPA

Original GPA Ranges
Seventh Semester Cumulative GPA Change

Impact of Spring 2005 Cumulative GPA Change Under Alternate New Policy

% w/ a Positive or Negative Change to their Current GPA

Original GPA Ranges
Seventh Semester Cumulative GPA Change

Impact of Spring 2005 Cumulative GPA Change Under Alternate New Policy

Number w/ a Positive or Negative Change to their Current GPA

Original GPA Ranges

- 2.0 and Below
- 2.1 - 2.2
- 2.3 - 2.4
- 2.5 - 2.6
- 2.7 - 2.8
- 2.9 - 3.0
- 3.1 - 3.2
- 3.3 - 3.4
- 3.5 - 3.6
- 3.7 - 3.8
- 3.9 and Higher

NO
Pos
Neg
Last Semester Cumulative GPA Change

Impact of Fall 2005 Cumulative GPA Change Under Alternate New Policy

% w/ a Positive or Negative Change to their Current GPA

Original GPA Ranges

- 2.0 and Below
- 2.1 - 2.2
- 2.3 - 2.4
- 2.5 - 2.6
- 2.7 - 2.8
- 2.9 - 3.0
- 3.1 - 3.2
- 3.3 - 3.4
- 3.5 - 3.6
- 3.7 - 3.8
- 3.9 and Higher

- Pos%
- Neg%
Last Semester Cumulative GPA Change

Impact of Fall 2005 Cumulative GPA Change Under Alternate New Policy

Number w/ a Positive or Negative Change to their Current GPA

Original GPA Ranges

2.0 and Below 2.1 - 2.2 2.3 - 2.4 2.5 - 2.6 2.7 - 2.8 2.9 - 3.0 3.1 - 3.2 3.3 - 3.4 3.5 - 3.6 3.7 - 3.8 3.9 and Higher

No Pos Neg
Academic Actions

• Probations increased up to 45 per semester

• Dismissal increased 50 per semester

• Overall Graduation Rate dropped by 1-2%
Section Demand Increases from C-

<table>
<thead>
<tr>
<th>College</th>
<th>Fall03</th>
<th>Spring 04</th>
<th>Fall 04</th>
<th>Spring 05</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>C-</td>
<td># Crs</td>
<td>AVG Sec</td>
<td>Unit</td>
</tr>
<tr>
<td>A</td>
<td>75</td>
<td>25</td>
<td>30.0</td>
<td>2.5</td>
</tr>
<tr>
<td>B</td>
<td>40</td>
<td>10</td>
<td>45.0</td>
<td>0.9</td>
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<tr>
<td>C</td>
<td>800</td>
<td>250</td>
<td>30.0</td>
<td>26.7</td>
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<td>275</td>
<td>50</td>
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<td>600</td>
<td>125</td>
<td>50.0</td>
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<td>50</td>
<td>25</td>
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<td><strong>TOTAL (ALL)</strong></td>
<td><strong>3065</strong></td>
<td><strong>745</strong></td>
<td><strong>37.9</strong></td>
<td><strong>82.2</strong></td>
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</table>

C- is the number of students that received a C- grade  
# CRS is the number of course that gave out a grade of C-  
AVG Sec is the average section size of all section that had C- grades  
Sec. Unit is the sum of each the impact of each C- student on each course. The impact was calculated by dividing the number of students who received a C- in a course by the section size of that course
## Section Demand with C- and Waitlist

<table>
<thead>
<tr>
<th>College</th>
<th>Fall03</th>
<th>Spring 04</th>
<th>Fall 04</th>
<th>Spring 05</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>C- &amp; Wait</td>
<td># Crs</td>
<td>AVG Sec</td>
<td>Sec. Unit</td>
</tr>
<tr>
<td>A</td>
<td>10</td>
<td>5</td>
<td>30.0</td>
<td>0.3</td>
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<td>B</td>
<td>25</td>
<td>5</td>
<td>45.0</td>
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<tr>
<td>C</td>
<td>1300</td>
<td>125</td>
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<td>1200</td>
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<td>L</td>
<td>0</td>
<td>1</td>
<td>25.0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL (ALL)</td>
<td>3930</td>
<td>346</td>
<td>37.9</td>
<td>103.5</td>
</tr>
</tbody>
</table>

- **C- & Wait** is the number of students that received a C- grade combined with the waitlist
- **# CRS** is the number of course with a waitlist and gave out grade of C-
- **AVG Sec** is the average section size of all sections
- **Sec. Unit** is the sum of each the impact of each C- plus waitlist on each course. The impact was calculated by dividing the number of students
Conclusion

• In any given semester, there are many students both helped and hurt by the policy change when examining their semester GPA

• Over the long term, almost all cumulative GPAs are affected negatively

• Disciplinary actions would likely increase under the new policy

• Overall, there is a cumulative course repeat impact of about 100 Section Units each semester (depending on the size of the waitlists), which may have a financial impact