Course Length Study
eCampus Center Research and Innovation Team
The eCampus Center Research and Innovation Team is built to support the promotion of **evidence-based practices**.

Through the use of **learning analytics**, we can investigate and inform course design strategies to **improve student success**.

"Learning analytics..." is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs."

- International Conference on Learning Analytics and Knowledge
There is currently no wide-scale investigation of the impact of course length on performance in an online setting.
Research Questions

Is there a relationship between *course length* and *student outcomes*?

Is there a relationship between *course length* and *student activity*?
Research Pipeline

Research Scope
Define our purpose, research questions, and variables; literature review

Anonymization
Scrub the data of any identifying or sensitive information

Statistical Analysis
Conduct ANOVA and nonparametric tests, multivariate logit regression

Data Extraction
Extract data from SQL Server

Data Wrangling
Clean, join, and merge data into usable form

Interpretation
Summarize and visualize results
Data

The data we selected is drawn from Blackboard Analytics for Learn and the PeopleSoft student information system.

➔ Terms
Summer 2016 through Spring 2018

➔ Number of Student-Enrollments
47,337

➔ Courses
Only online courses

➔ Weeks of Instruction
3, 5, 7, 8, 10, 15 weeks
## Data Summary

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Enrollments</th>
<th>Grade (Mean)</th>
<th>Minutes (Mean)</th>
<th>Hours (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>548</td>
<td>88.5%</td>
<td>1,796</td>
<td>29.9</td>
</tr>
<tr>
<td>5</td>
<td>3,647</td>
<td>89.3%</td>
<td>1,568</td>
<td>26.1</td>
</tr>
<tr>
<td>7</td>
<td>4,031</td>
<td>89.6%</td>
<td>2,240</td>
<td>37.3</td>
</tr>
<tr>
<td>8</td>
<td>9,201</td>
<td>91.4%</td>
<td>2,423</td>
<td>40.4</td>
</tr>
<tr>
<td>10</td>
<td>1,578</td>
<td>87.4%</td>
<td>2,504</td>
<td>41.7</td>
</tr>
<tr>
<td>15</td>
<td>28,332</td>
<td>85.7%</td>
<td>2,320</td>
<td>38.7</td>
</tr>
</tbody>
</table>

*All courses, regardless of credit load*
What course lengths are associated with the highest course grades?

Note
Course grade differences might be caused by the difference in the number of credits a course is worth. We control for number of credits in our analysis.
### Statistical Findings

<table>
<thead>
<tr>
<th>COURSE LENGTH</th>
<th>IMPROVED ODDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-week courses</td>
<td>1.8x</td>
</tr>
<tr>
<td>5-week courses</td>
<td>1.3x</td>
</tr>
<tr>
<td>7-week courses</td>
<td>1.9x</td>
</tr>
<tr>
<td>8-week courses</td>
<td>2.2x</td>
</tr>
<tr>
<td>10-week courses</td>
<td>1.1x</td>
</tr>
</tbody>
</table>

Baseline: 15 week courses  
Outcome: “Pass” vs. “DFW”  
\( n = 47,377 \)
What course lengths are associated with the highest student activity?

**Note**

Course grade differences might be caused by the difference in the **number of credits** a course is worth. We control for number of credits in our analysis.
Minutes Distribution per Course Length
Terms: Summer 2016 through Spring 2018

Source: Research and Innovation Team
### Statistical Findings

<table>
<thead>
<tr>
<th>COURSE LENGTH</th>
<th>MINUTES DIFFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-week courses</td>
<td>↓ 326-622</td>
</tr>
<tr>
<td>5-week courses</td>
<td>↓ 316-446</td>
</tr>
<tr>
<td>7-week courses</td>
<td>Equal</td>
</tr>
<tr>
<td>8-week courses</td>
<td>↑ 295-383</td>
</tr>
<tr>
<td>10-week courses</td>
<td>↑ 91-268</td>
</tr>
</tbody>
</table>

Baseline = 15 week courses.  
\( n = 47,337 \)
Expected Weekly Minutes vs. Actual Weekly Minutes

Terms: Summer 2016 through Spring 2018

Source: Research and Innovation Team
Conclusions

Students in 7-week courses have **1.9x higher odds of passing** than in 15-week courses*.

Students in 7-week courses put in the same amount of **time** as in 15-week courses*.

The 7-week course model is **as effective as** 15-week courses in terms of student time spent and student outcomes.

*Controlling for the number of credits of each course.
Questions?