

---

---

# 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

# P R O B L E M

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

1

2

3

4

5

6

## 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

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

\*All courses, regardless of credit load

# What **course lengths** are associated with the highest **course grades**?

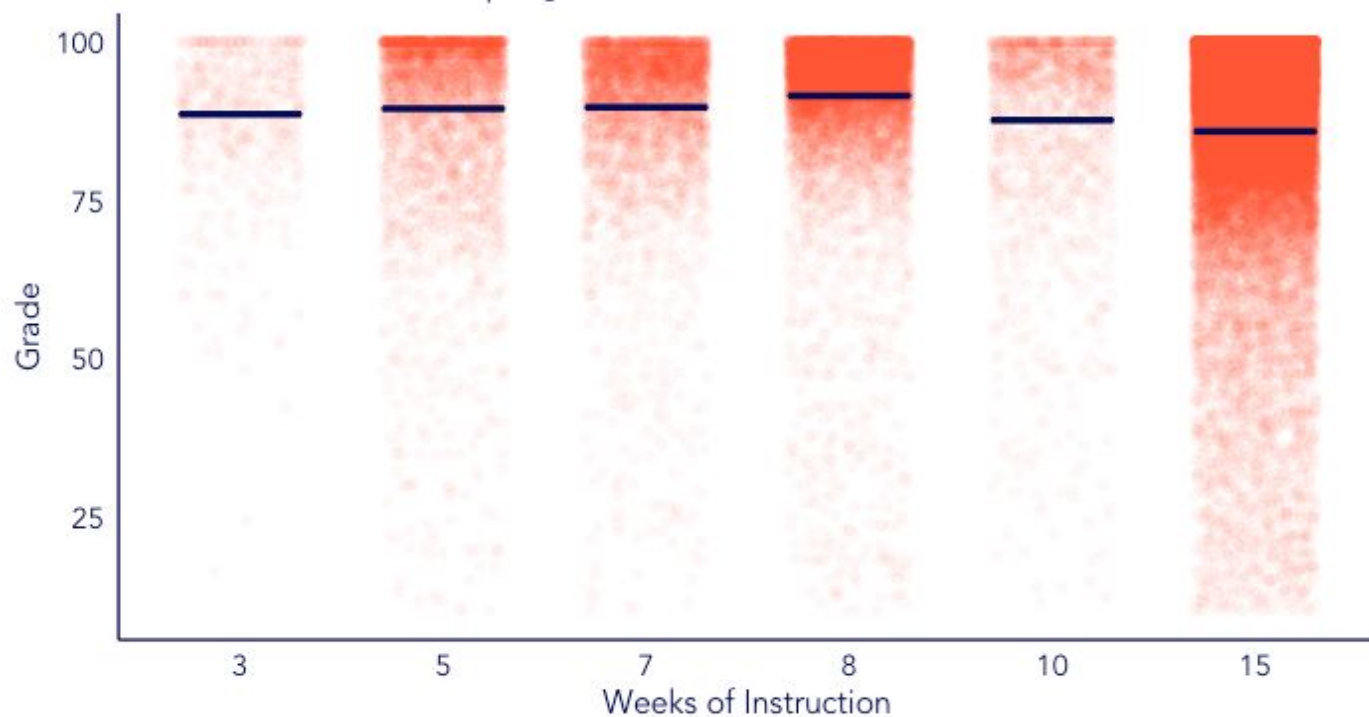
## Note

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.



## Grade Distribution per Course Length

Terms: Summer 2016 to Spring 2018



Source: Research and Innovation Team

# Statistical Findings

COURSE LENGTH	IMPROVED ODDS
3-week courses	<b>1.8x</b>
5-week courses	<b>1.3x</b>
7-week courses	<b>1.9x</b>
8-week courses	<b>2.2x</b>
10-week courses	<b>1.1x</b>

Baseline: 15 week courses  
Outcome: "Pass" vs. "DFW"  
n = 47,377

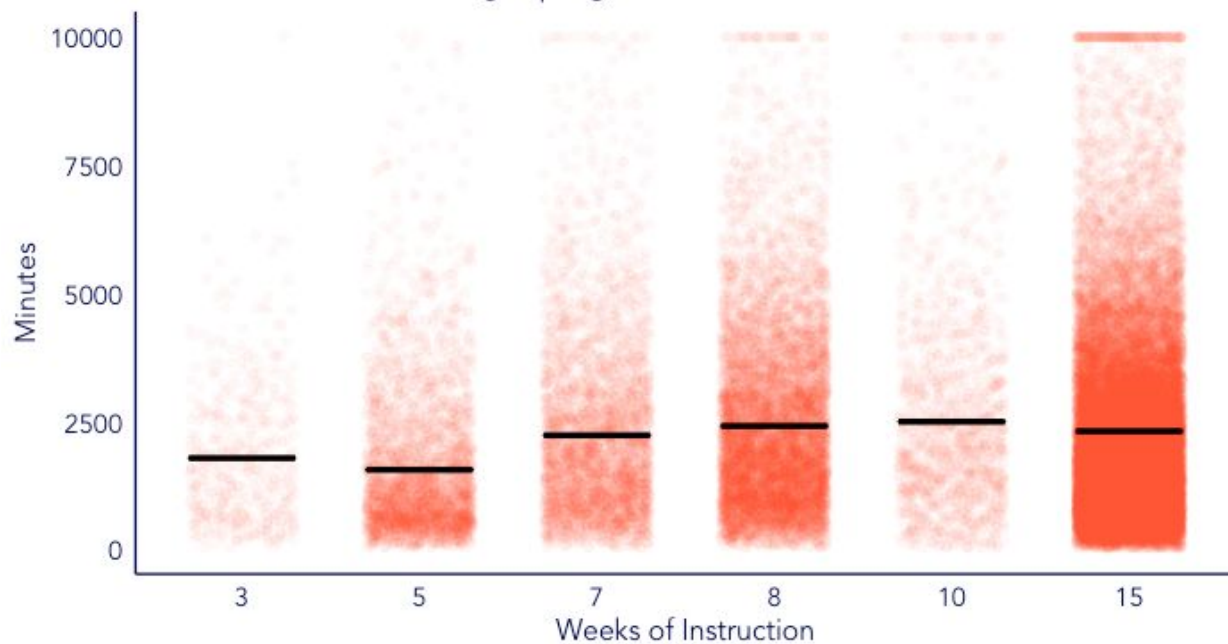
# What **course lengths** are associated with the highest **student activity**?

## 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

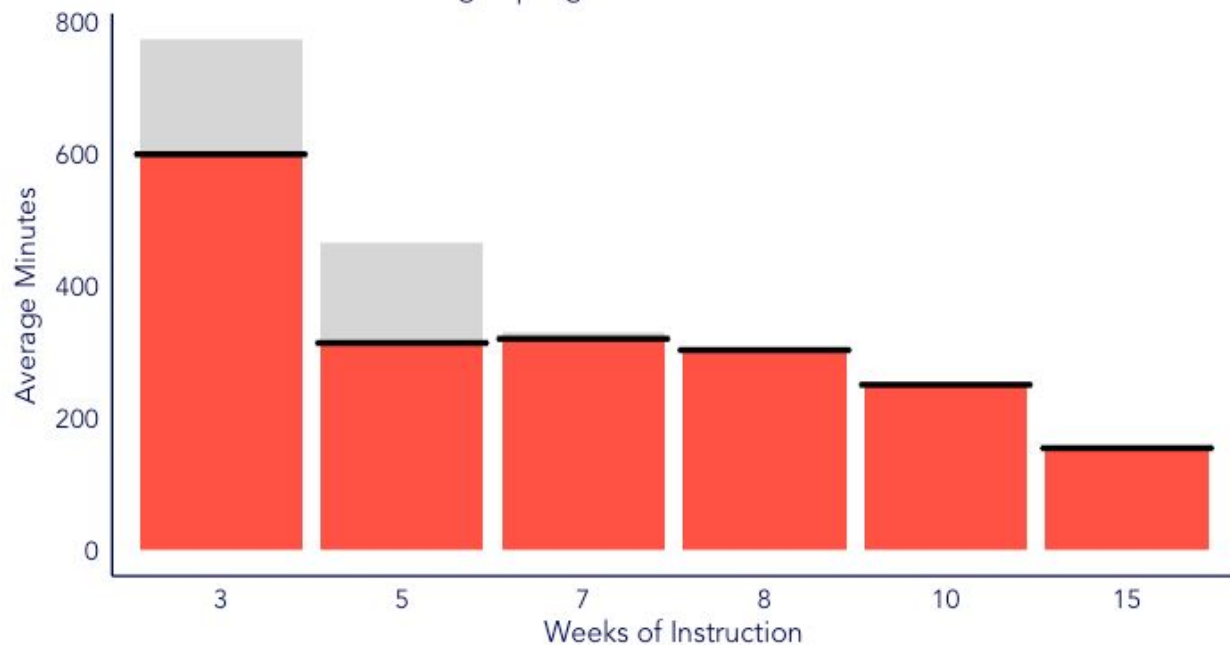
# Statistical Findings

COURSE LENGTH	MINUTES DIFFERENCE
3-week courses	↓ <b>326-622</b>
5-week courses	↓ <b>316-446</b>
7-week courses	<b>Equal</b>
8-week courses	↑ <b>295-383</b>
10-week courses	↑ <b>91-268</b>

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?**