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## Project 5: Run an AdWords Campaign (Part 2)

### Campaign Evaluation

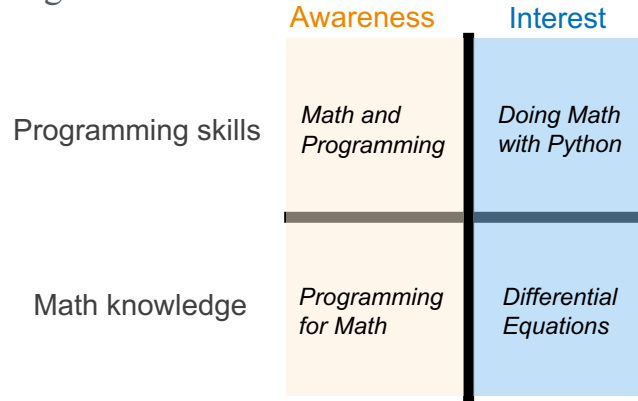
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# Campaign Approach

Description, Marketing Objective & KPI

# 1. Approach Description

Differential Equations in Action is the course assignment for this campaign, and the target location is United Kingdom. To gain new enrollment, I first divide prospective students in two ad group: **awareness** and **interest**. Because Differential Equations in Action is an interdisciplinary course that require the use of math and programming, I further divide the prospective students who are already have skills in either programming or math. Below is the diagram of my segmentation with the ad title I used:



**Awareness:** For awareness ad group, I use broader term such as “programming” and “math” to attract people that might not even thinking about learning differential equations or python languages.

**Interest:** For interest ad group, I use more specific description such as “Doing Math with Python” or “Differential Equations” that should attract students who already want to learn these subjects.

## 2. Marketing Objective & KPI

### **Objective:**

To attract prospective students to Udactiy's high-quality free education through enrollment of *Differential Equations in Action* course. The main objective is to gain 10 enrollment with a maximum budget of \$100 and \$15 daily budget over 5 days.

### **Primary KPI:**

*The number of enrollment during the campaign span.*





# Ad Groups

Ads and Keywords

# Ad Group #1: Awareness – Differential Equations in Action

## Math and Programming - Enroll Our Free Courses

**Ad** [udacity.com/differential/equations](https://udacity.com/differential/equations)

Learn Python programming language to solve real-life math problems!

## Programming for Math - Differential Equations Course

**Ad** [udacity.com/differential/equations](https://udacity.com/differential/equations)

Learn Python programming language to solve real-life math problems!

### Keyword List:

application of partial differential equation  
basic differential equations  
diff eq  
differential equations videos  
differentiation maths  
how to do differential equations  
intro to differential equations  
Online differential equations class  
Partial differential equations

Partial differntial equations  
Python differential equation  
Solving equations website  
system of differential equations solver  
Use of differential equations  
What is partial differntial equation  
python differential equation  
python ode solver  
differential equations python book

solving partial differential equations  
in python  
software for solving differential equations  
math programming language  
math for programmers book

# Ad Group #2: Interest – Differential Equations in Action

## Differential Equations - Free Online Courses

**Ad** [udacity.com/differential/equations](https://udacity.com/differential/equations)

Write Python code to solve differential equations in real-life situations!

## Doing Math with Python - Differential Equations Course

**Ad** [udacity.com/differential/equations](https://udacity.com/differential/equations)

Apply your Python skills to differential equations in real-life situations!

### Keyword List:

application of partial differential equation  
basic differential equations  
diff eq  
differential equations online course  
community college  
differential equations videos  
differentiation maths  
intro to differential equations  
multivariable differential equation

numerical methods for partial differential  
equations  
numerical partial differential equations  
numerical partial differential equations  
online differential equations class  
partial differential equations  
partial differential equations  
python differential equation  
python ode solver

differential equations python book  
solving partial differential equations  
in python  
software for solving differential equations





# Key Campaign Results (Campaign & Ad Groups)

Present the results of your campaign and ad groups by completing the table below.

Ad Group	Max. CPC Bid	Impr.	Clicks	CTR	Avg. Cost per Click	Conversions	CR	Cost per Conversion	Cost
<i>Awareness</i>	\$3	1902	99	5.21%	\$0.68	1	1.01%	\$66.54	\$66.54
<i>Interest</i>	\$3	1159	25	2.16%	\$0.95	0	N/A	N/A	\$23.85
<b>Total</b>		<b>3061</b>	<b>124</b>	<b>4.05%</b>	<b>\$0.73</b>	<b>1</b>	<b>0.81%</b>	<b>\$90.39</b>	<b>\$90.39</b>

# Key Campaign Results (Ads)

Present the results of your ads by completing the table below.

Ad	Clicks	CTR	Avg. Cost per Click	Conversions	CR	Cost per Conversion
<i>Awareness, Ad 1</i>	0	0%	\$0	0	N/A	N/A
<i>Awareness, Ad 2</i>	99	5.28%	\$0.68	1	1.01%	\$67.32
<i>Interest, Ad 1</i>	8	1.89%	\$0.42	0	0%	N/A
<i>Interest, Ad 2</i>	17	2.34%	\$1.20	0	0%	N/A

# Key Campaign Results (Keywords)

Present the three keywords you consider most successful based on your marketing objective.

Keyword	Clicks	CTR	Avg. Cost per Click	Conversions	CR	Cost per Conversion
<i>Solving equations website</i>	60	8.68%	\$0.57	0	0	N/A
<i>Use of differential equations</i>	21	4.09%	\$0.92	0	0	N/A
<i>differentiation maths</i>	12	2.91%	\$0.91	1	8.33%	\$10.92



# Campaign Evaluation

- Overall, the result is not satisfactory. The main objective is to gain 10 enrollment of the course; however, we only gain one enrollment in the last day.
- With the assumption that the conversion value for one enrollment is \$60, this campaign only yields \$60 while the cost is \$90.39. Since the cost is greater than the profit, the ROI is negative.
- The conversion rate of the better performing ad group is about 1%, which is lower than my expectation of 10%. The result implies that people may be curious about or interested in what we are offering, but they were not thinking of taking the course. I might target at wrong audience.
- The keyword with most click (*Solving equations website*) contributes no conversion for this campaign. This may be because people use this keyword just wanted to solve the equations but not to receive full education.
- Finally, the use of broad match might be the main cause of the low conversion rate. It turns out that about third of the clicks came from the search term “*equation solver*”, which is unlikely to contribute to conversion.



# Recommendations for future campaigns

- I will make use of all the match options (exact match, phrase match, etc.) for the keywords in the future campaigns. I have learnt from the campaign that when talking about conversions, the audience are really matter. With the right keywords and the match options, we can finally target at the right people.
- I will focus on the keywords that can truly reflect our content such as “*differentiation*” or “*differentiation math*”, and set negative keywords such as “differential equation solver” or “solving equations website”, which are not really related to the course.
- With the right keywords in hand, I will run A/B test on the ad headline, description, and the URL. The CTRs for the four ad I created this time are quite different, which means there is room for improvement.
- I will add a short but attractive trailer to the landing page, much like the ones that most nanodegrees have. I suspect that people nowadays watch videos more often than reading text even on the web. And it is hard to attract their attention only by text.










# Appendix

Screenshots for Reference

# Ad Groups

<input type="checkbox"/>	<input type="radio"/>	Ad group	Status	Default max. CPC	Clicks	Impr.	CTR	Avg. CPC	Cost	Ad group type	Active bid adj
<input type="checkbox"/>	<input checked="" type="radio"/>	Awareness	Campaign ended	\$3.00 (enhanced)	99	1,902	5.21%	\$0.68	\$66.93	Standard	None
<input type="checkbox"/>	<input checked="" type="radio"/>	Interest	Campaign ended	\$3.00 (enhanced)	25	1,159	2.16%	\$0.95	\$23.85	Standard	None
Total: Ad groups					124	3,061	4.05%	\$0.73	\$90.78		
Total: Campaign					124	3,061	4.05%	\$0.73	\$90.78		

# Ads

<input type="checkbox"/>		Ad	Status	Ad group	Ad type	Clicks	Impr.	CTR	Avg. CPC	Cost
<input type="checkbox"/>		<a href="#">Differential Equations Free Online Courses</a> <a href="https://udacity.com/differential/equations">udacity.com/differential/equations</a> Write Python code to solve differential equations in real-life situations!	Campaign ended	Interest	Expanded text ad	8	433	1.85%	\$0.42	\$3.38
		default				—	—	—	—	—
<input type="checkbox"/>		<a href="#">Doing Math with Python Differential Equations Course</a> <a href="https://udacity.com/differential/equations">udacity.com/differential/equations</a> Apply your Python skills to differential equations in real-life situations!	Campaign ended	Interest	Expanded text ad	17	726	2.34%	\$1.20	\$20.47
		default				—	—	—	—	—
<input type="checkbox"/>		<a href="#">Math and Programming Enroll Our Free Courses</a> <a href="https://udacity.com/differential/equations">udacity.com/differential/equations</a> Learn Python programming language to solve real-life math problems!	Campaign ended	Awareness	Expanded text ad	0	28	0.00%	\$0.00	\$0.00
<input type="checkbox"/>		<a href="#">Programming for Math Differential Equations Course</a> <a href="https://udacity.com/differential/equations">udacity.com/differential/equations</a> Learn Python programming language to solve real-life math problems!	Campaign ended	Awareness	Expanded text ad	99	1,874	5.28%	\$0.68	\$66.93
		default				—	—	—	—	—
		Udacity Course Signup				—	—	—	—	—
Total: All but removed ads						124	3,061	4.05%	\$0.73	\$90.78
Total: Campaign						124	3,061	4.05%	\$0.73	\$90.78



# Keywords

<input type="checkbox"/>	<input checked="" type="radio"/>	Keyword	Group	Status	Max. CPC	Policy details	Final URL	Clicks	Impr.	CTR	Avg. CPC	Cost
Total: All but removed keywords								124	3,061	4.05%	\$0.73	\$90.78
<input type="checkbox"/>	<input checked="" type="radio"/>	Solving equations website	Business	Campaign ended	\$3.00 (enhanced)	Approved	—	60	691	8.68%	\$0.57	\$34.16
<input type="checkbox"/>	<input checked="" type="radio"/>	Use of differential equations	Business	Campaign ended	\$3.00 (enhanced)	Approved	—	21	514	4.09%	\$0.92	\$19.37
<input type="checkbox"/>	<input checked="" type="radio"/>	diff eq	Business	Campaign ended	\$3.00 (enhanced)	Approved	—	15	611	2.45%	\$0.73	\$10.89
<input type="checkbox"/>	<input checked="" type="radio"/>	differentiation maths	Business	Campaign ended	\$3.00 (enhanced)	Approved	—	12	413	2.91%	\$0.91	\$10.88
<input type="checkbox"/>	<input checked="" type="radio"/>	differentiation maths	Business	Campaign ended	\$3.00 (enhanced)	Approved	—	9	301	2.99%	\$1.39	\$12.49
<input type="checkbox"/>	<input checked="" type="radio"/>	diff eq	Business	Campaign ended	\$3.00 (enhanced)	Approved	—	2	83	2.41%	\$0.39	\$0.77

