Applied Maths: Understanding Engineering through Numbers, Session One
King's College London Undergraduate Summer School 2017

	Monday 26th (JA)	**Tuesday 27th (PC)**	**Wednesday 28th (JA)**	**Thursday 29th (PC)**	**Friday 30th (JA)**
Morning 9.00am-12.30pm	Lecture 1: *Introduction and Basic Concepts* [K2.40] Problem Class: *Trigonometry, Logs and Exponentials* [K2.40] Group activity: *Great Mathematicians* [G.63, Maughan Library]	Lecture 2: *Physical Quantities and Vectors* [K2.41] Problem Class: *Vectors and Newton's Laws* [K2.41] Using King's Library and Online Resources [K2.41]	Lecture 3: *Differentiation* [K2.41] Problem Class: *Differentiation* [K2.41] Group activity: *Linear Approximations and Taylor Series* [K2.41]	Lecture 4**:** *Application of Differentiation to Engineering* [K2.41] Problem Class: *Problems in Engineering* [K2.41] Group activity: *Analysis of wave signals* [K4.32]	Guest speaker 1: Prof Gilmour - *Statistics in Engineering (10:30-11:30am)* [K2.41] Guest speaker 2: Dr Bishop - *Computational Modelling in Engineering (11:45-12:45pm)* [K2.41]
Afternoon 1.00pm-5.00pm	Welcome Event and Enrolment; information will be available prior to arrival	Private study or free time	Private study or free time	Private study or free time	Private study or free time
	Monday 3rd (JA)	**Tuesday 4th (PC)**	**Wednesday 5th (JA)**	**Thursday 6th (PC)**	**Friday 7th (JA & PC)**
Morning 9.00am-12.30pm	Lecture 5: *Integration* [K2.40] Problem Class: *Integration* [K2.40] Group activity: *Area under a curve* [K2.40]	Lecture 6: *Application of Integration to Engineering* [K2.40] Problem Class: *Problems in Engineering* [K2.40] Group activity: *Cardiac output calculation* [K4.32]	Lecture 7: *Complex Numbers* [K2.40] Problem Class: *Complex Numbers* [K2.40] Group activity: *Finding the treasure* [K2.40]	Lecture 8: *Ordinary Differential Equations (first order)* [K2.40] Problem Class: *First order ODEs* [K2.40] Group activity: *The Windkessel blood flow model* [K2.40]	Excursion: Visit to the *Mathematics Winton Gallery* [London Science Museum]
Afternoon 1.00pm-5.00pm	Private study or free time	Private study or free time	Private study or free time	Private study or free time	Private study or free time
	Monday 10th (JA)	**Tuesday 11th (PC)**	**Wednesday 12th (JA)**	**Thursday 13th (JA & PC)**	**Friday 14th (JA)**
Morning 9.00am-12.30pm	Lecture 9: *Ordinary Differential Equations (second order)* [K2.40] Problem Class: *Second order ODEs* [K2.40] Group activity: *Skydiving* [K2.40]	Lecture 10**:** *Periodic Motion* [K2.40] Problem Class: *Problems in Engineering* [K2.40] Group activity: *Simple harmonic motion* [K2.40]	Lecture 11**:** *Functions of Multiple Variables* [K2.40] Problem Class: *Functions of Multiple Variables* [K2.40] Group activity: *The wave equation* [K2.40]	Revision class [K2.40]	Closing academic session: *Conclusions and wrap up* [K2.40]
Afternoon 1.00pm-5.00pm	Private study or free time	Private study or free time	Private study or free time	Private study or free time	Farewell Event – 1 - 2pm [Tutu's, Strand Campus]

Most classes take place in the King's Building [K2.40, K2.41, K4.32]. This timetable is subject to change.