

Further Mathematics A level – Medium Term Plan – (2016 - 2017)

Week beginning		Topics/Assessment objectives to be covered in class	Resources	Flip tasks	Consolidation
5 th Sept 2016	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Continuous Random Variables $f(x)$ Allocation Problems Hyperbolic Functions 	<u>Allocation</u> - powerpoint and worksheets	Review summer holiday tasks	S2 Textbook(Issued) - Chapter 3, page 37 - 42 M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter 5 , page 115 - 129
12 th Sept 2016	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Continuous Random Variables $F(x)$ Allocation Problems - special cases (missing data, maximising) Solving Equations Involving Hyperbolic Functions 	<u>Continuous Random Variables</u> - powerpoint and student notes	S2 Booklet - Students to work on task 1 (Continuous Random Variables) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	S2 Textbook(Issued) - Chapter 3, page 43 -63 furthermaths.org.uk - Students to review Continuous Random Variables and complete tutorial questions M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter 5, page 130 - 137
19 th Sept 2016	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Continuous Uniform Distribution - deriving $E(X)$, $Var(X)$ Projectiles Proofs Involving Hyperbolic Functions 		D2 Booklet - Students to work on task 1 (Allocation Problems) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	S2 Textbook(Issued) - Chapter 4, page 68 - 75 M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter 5, page 138 - 145
26 th Sept 2016	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Continuous Uniform Distribution - Using $E(X)$, $Var(X)$, graph Transportation Problems Differentiating Hyperbolic Functions 	<u>Transportation</u> - powerpoint and worksheets	M2 Booklet - Students to work on task (Projectiles) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates. FP3 Booklet - Students to work on task 1 (Hyperbolic Functions- solving equations & proofs) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	S2 Textbook(Issued) - Chapter 4, page 76 - 80 M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter 6, page 152 -171

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3 rd Oct 2016	<p><u>Statistics2 Module:</u></p> <p><u>Decision 2 Module:</u></p> <p><u>Mechanics 2:</u></p> <p><u>Further Pure 3 Module:</u></p>	<ul style="list-style-type: none"> • Continuous Uniform Distribution in Context • Transportation Problems - special cases • Differentiating Inverse Hyperbolic Functions 	<p>Continuous Distributions - powerpoint and student notes</p>	<p>S2 Booklet - Students to work on task 2 (Uniform Distribution) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>furthermaths.org.uk - Students to review Uniform Distribution and complete tutorial questions</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 6, page 172 -179</p>
10 th Oct 2016	<p><u>Statistics2 Module:</u></p> <p><u>Decision 2 Module:</u></p> <p><u>Mechanics 2:</u></p> <p><u>Further Pure 3 Module:</u></p>	<ul style="list-style-type: none"> • Introducing the Binomial Distribution • Elastic Collisions - Newtons Law of Restitution • Integrating Hyperbolic functions 	<p>Binomial Distribution - powerpoint and student notes</p>	<p>D2 Booklet - Students to work on task 2 (Transportation Problems) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>S2 Textbook(Issued) - Chapter 1, page 1 - 8</p> <p>furthermaths.org.uk - Students to review Prims Algorithm and complete tutorial questions</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 6, page 180 - 190</p>
17 th Oct 2016	<p><u>Statistics2 Module:</u></p> <p><u>Decision 2 Module:</u></p> <p><u>Mechanics 2:</u></p> <p><u>Further Pure 3 Module:</u></p>	<ul style="list-style-type: none"> • Using the Binomial Distribution Tables • Game Theory- stable games 	<p>Game Theory - powerpoint and worksheets</p>	<p>M2 Booklet - Students to work on task 2 (Elastic Collisions - Newtons Law of Restitution) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p> <p>FP3 Booklet - Students to work on task 2 (Hyperbolic Functions - differentiation & integration) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and</p>	<p>S2 Textbook(Issued) - Chapter 1, page 9 - 14</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 4, page 84 - 91</p>

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completing corrections. See booklet for details and specific dates.

Half Term

				completing corrections. See booklet for details and specific dates.	
<h2>Half Term</h2>					
31 st Oct 2016	<p><u>Statistics2 Module:</u></p> <p><u>Decision 2 Module:</u></p> <p><u>Mechanics 2:</u></p> <p><u>Further Pure 3 Module:</u></p>	<ul style="list-style-type: none"> Binomial Distribution in Context Game Theory- finding mixed strategy Using the Standard Integrals 		<p>S2 Booklet - Students to work on task 3 (Binomial Distribution) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>S2 Textbook(Issued) - Chapter 1, page 15 - 18</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 4, page 92 - 99</p>
7 th Nov 2016	<p><u>Statistics2 Module:</u></p> <p><u>Decision 2 Module:</u></p> <p><u>Mechanics 2:</u></p> <p><u>Further Pure 3 Module:</u></p>	<ul style="list-style-type: none"> Introducing the Poisson Distribution Work, Energy and Power FP3 Integration Techniques 	<p>FP3 Integration</p>	<p>D2 Booklet - Students to work on task 3 (Game Theory) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>S2 Textbook(Issued) - Chapter 2, page 19 - 21</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 4, page 100 - 114</p>
14 th Nov 2016	<p><u>Statistics2 Module:</u></p> <p><u>Decision 2 Module:</u></p> <p><u>Mechanics 2:</u></p> <p><u>Further Pure 3 Module:</u></p>	<ul style="list-style-type: none"> Using the Poisson Distribution Tables Dynamic Programming - diagram Arc length 	<p>Poisson Distribution - powerpoint and student notes</p> <p>Dynamic Programming - powerpoint and worksheets</p>	<p>M2 Booklet - Students to work on task 3 (Work, Energy and Power) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p> <p>FP3 Booklet - Students to work on task3 (Standard Integrals) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>S2 Textbook(Issued) - Chapter 2, page 22 - 23</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 3, page 62 - 65</p>

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21 st Nov 2016	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Poisson Distribution in Context Dynamic Programming - problems in context Surface area of revolution 		<p>S2 Booklet - Students to work on task 4 (Poisson Distribution) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>S2 Textbook(Issued) - Chapter 2 page 24 - 27 furthermaths.org.uk- Students to review Binomial & Poisson and complete tutorial questions</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 3, page 66 - 73</p>
28 th Nov 2016	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Approximating a Binomial Distribution with a Poisson Work - Energy Principle 		<p>D2 Booklet - Students to work on task 4 (Dynamic Programming) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>S2 Textbook(Issued) - Chapter 2, page 24 - 36</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 1, page 2 - 18</p>
5 th Dec 2016	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Approximating a Binomial Distribution with a Normal (Including Continuity Correction) Simplex Algorithm Integrating - reduction formulae 	<p><u>Simplex</u> - powerpoint and worksheets</p>	<p>M2 Booklet - Students to work on task 4 (Work - Energy Principle) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p> <p>FP3 Booklet - Students to work on task 4 (Surface Area & Arc Length) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>S2 Textbook(Issued) - Chapter 5, page 81 - 85</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 2, page 26 - 39</p>
12 th Dec 2016	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Approximating a Poisson Distribution with a Normal (Including Continuity Correction) 		<p>S2 Booklet - Students to work on task 5 (Approximations) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>S2 Textbook(Issued) - Chapter5 , page 86 - 90 furthermaths.org.uk- Students to review Aproximations and complete tutorial questions</p>

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		<ul style="list-style-type: none"> Integrating - reduction formulae (special cases) 			<p>hegartymaths.com - Students to review Simplex Algorithm and complete tutorial questions</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter 3, page 44 - 54</p>
<h2>Xmas Holiday</h2>					
		<ul style="list-style-type: none"> Revision 			
<h2>Mock Exams(2 weeks)</h2>					
23 rd Jan 2017	<p><u>Statistics2 Module:</u></p> <p><u>Decision 2 Module:</u></p> <p><u>Mechanics 2:</u></p> <p><u>Further Pure 3 Module:</u></p>	<ul style="list-style-type: none"> Setting up a Hypothesis Test - Null Hypothesis and Alternative Hypothesis Ellipses 	<p><u>Hypothesis Testing</u> - powerpoint and student notes</p>	<p><u>D2 Booklet</u> - Students to work on task 5 (Linear Programming) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	<p>S2 Textbook(Issued) - Chapter 7, page 105 - 110</p> <p>M2 textbook (Issued) - Chapter , page</p> <p>FP3 Textbook(Issued) - Chapter , page</p>
30 th Jan 2017	<p><u>Statistics2 Module:</u></p> <p><u>Decision 2 Module:</u></p> <p><u>Mechanics 2:</u></p> <p><u>Further Pure 3 Module:</u></p>	<ul style="list-style-type: none"> Hypothesis Testing Travelling Salesman Algorithm - Nearest Neighbour, Deleting Hyperbolas 	<p><u>Travelling Salesman</u> - powerpoint and worksheets</p>	<p><u>M2 Booklet</u> - Students to work on task 5 () and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p> <p><u>FP3 Booklet</u> - Students to work on task 5 (Integration including Reduction Formulae) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and</p>	<p>S2 Textbook(Issued) - Chapter 7, page 111 - 115</p> <p>furthermaths.org.uk- Students to review Hypothesis Testing and complete tutorial questions</p> <p>M2 textbook (Issued) - Chapter , page</p>

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				completing corrections. See booklet for details and specific dates.	FP3 Textbook(Issued) - Chapter , page
6 th Feb 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Critical Regions Parametric Equations of Ellipses & hyperbolas 		S2 Booklet - Students to work on task 6 (Hypothesis Testing & Critical Regions) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	S2 Textbook(Issued) - Chapter 7, page 116 - 125 M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter , page

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20 th Feb 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Identifying Statistics Capacities & Networks Centre of Mass Matrices - determinants & inverses 		D2 Booklet - Students to work on task 6 (Travelling Salesman Problems) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	S2 Textbook(Issued) - Chapter 6, page 97 - 99 M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter , page
27 th Feb 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Sampling Distributions Matrices- eigenvalues & eigenvectors 		M2 Booklet - Students to work on task 6 (Centre Of Mass) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates. FP3 Booklet - Students to work on task 6 (Ellipses & Hyperbolas) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	S2 Textbook(Issued) - Chapter 6, page 91 - 96 furthermaths.org.uk - Students to review Sampling and complete tutorial questions M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter , page

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6 th Mar 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Definitions Matrices - special types & diagonalising 	Network Flows - powerpoint and worksheets	S2 Booklet - Students to work on task 7 (Statistics & Sampling Distributions) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	Students will be provided with revision cards for D2 & S2 Definitions & Formulae - students will be required to know these M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter , page
13 th Mar 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Vectors - Scalar product, Cross Product, normal Limiting Equilibrium 	Vector formulae - tarsia	D2 Booklet - Students to work on task 7 (Capacitated Directed Networks) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter , page
20 th Mar 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Vectors - equations of lines & planes Formulating as a Linear programming Problem 		M2 Booklet - Students to work on task 7 (Limiting Equilibrium) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates. FP3 Booklet - Students to work on task 7 (Matrices) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	M2 textbook (Issued) - Chapter , page FP3 Textbook(Issued) - Chapter , page
27 th Mar 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Vectors - applications 	FP3 Vectors - powerpoint presentation	S2 Booklet - Students to work on task 8 (Past paper - June 2011) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	FP3 Textbook(Issued) - Chapter , page

Easter Holiday

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17 th April 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Revision 		<p>examsolutions.com - Students to review their S2 booklet task 8 by watching the video tutorials for the questions they need to correct</p> <p>D2 Booklet - Students to work on task 8 (Formulating Linear Programming Problems) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	A programme of past papers (to be given to students through their 'Independent Study Sheets')
24 th April 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Revision 		<p>M2 Booklet - Students to work on task 8 (Past paper - Jan 2011) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p> <p>FP3 Booklet - Students to work on task 8 (Vectors) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates</p>	A programme of past papers (to be given to students through their 'Independent Study Sheets')
1 st May 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Revision 		<p>S2 Booklet - Students to work on task 9 (Past paper - Jan 2012) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates</p>	A programme of past papers (to be given to students through their 'Independent Study Sheets')
8 th May 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Revision 		<p>examsolutions.com - Students to review their S2 booklet task 8 by watching the video tutorials for the questions they need to correct</p> <p>D2 Booklet - Students to work on task 9 (Past Paper - June 2011) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.</p>	A programme of past papers (to be given to students through their 'Independent Study Sheets')
15 th May 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u>	<ul style="list-style-type: none"> Revision 		<p>M2 Booklet - Students to work on task 9 (Past paper) and hand in for assessment. Marked work will then be improved upon through responding to specific</p>	A programme of past papers (to be given to students through their 'Independent Study Sheets')

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	<u>Further Pure 3 Module:</u>			feedback and completing corrections. See booklet for details and specific dates. FP3 Booklet - Students to work on task 9 (Past paper) and hand in for assessment. Marked work will then be improved upon through responding to specific feedback and completing corrections. See booklet for details and specific dates.	
15 th May 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Revision 			A programme of past papers (to be given to students through their 'Independent Study Sheets')
22 nd May 2017	<u>Statistics2 Module:</u> <u>Decision 2 Module:</u> <u>Mechanics 2:</u> <u>Further Pure 3 Module:</u>	<ul style="list-style-type: none"> Revision 			A programme of past papers (to be given to students through their 'Independent Study Sheets')

Half Term