| **DATE** | **Pure – 2 lessons** | **h/w** | **Applied - 1 lesson** | **h/w** | **Unit Test** |
| --- | --- | --- | --- | --- | --- |
| 13th Sept | Lesson 1: Intro to course. Review and consolidation of pure summer work. **Ch 2:** The modulus function |f(x)| and f(|x|) and multiple transformations. | Pure 6 | Consolidation of applied summer work | Get yourself organised |  |
| 20th Sept | **Ch2:** Functions: Composites, inverses, domain and range | Revision | **Ch 4:** Moments4.1-4.2: Definition, resultants | Revision | P2U3 |
| 27th Sept | **Benchmark 5 pure and applied to include pre-summer work** | Pure 7Mech 1 |  |
| 4th Oct | **Ch 5:** 5.1-5.3: Radians, arc length, area of sector and segment | Pure 8 | **Ch 4:** Moments: 4.3 equilibriumStart 4.4 centres of mass | Mech 2 |  |
| 11th Oct |  **Ch6 :** Sec, cosec, cot graphs and using functions. Inverse trig graphs | Pure 9 | **Ch 4:** continue 4.4 centres of mass4.5 tilting | Mech 3 | M2U4 |
| 18th Oct | **Ch6:** Trigequations and simplifying expressions and proving identities. Including pythagoreans | Pure 10 | **Ch 5:** Forces5.1 resolving forces | Mech 4 |  |
| **HALF TERM** |
| **DATE** | **Pure** | **h/w** | **Applied** | **h/w** | **Unit Test** |
| 1st Nov | **Ch 7:** Compound angle formulae: proof and use in equations and identities. | Pure 11 | **Ch 5:** Resolving forces5.2 inclined planes | Mech 5 |  |
| 8th Nov | **Ch 7:** Double angles, Rcos(x+a), Applications of trigonometry | Pure 12 | **Ch 5:** 5.3 Friction | Mech 6  | M2U5P2U6 |
| 15th Nov | **Ch 8:** Parametrics - Definitions, curve sketching, conversions to cartesian, modelling | Revision | **Ch3:** Normal3.4 Standard normal3.5: Finding mu and sigma | Revision | P2U7 |
| 22nd Nov | **Benchmark 6 to potentially include some first year content. Pure in Lesson 1 and Applied in Lesson 3 of this week. 4MFB students to slot into these classes.** | Pure 13Stats 7 |  |
| 29th Nov | **Ch 5:** Small angle approximations**Ch 9:** Differentiation: 9.1 sin and cos from first principles | Pure 14  | **Ch 3:** Normal3.6 approximating binomial | Stat 8 |  |
| 6th Dec | 9.3 Chain rule (polynomials, ef(x), ax, lnx) | Pure 15 | **Ch 3:** Normal3.7 hypothesis testing with the normal | Stat 9 | S2U3 |
| 13th Dec | **Ch9:** More chain rule (sinf(x), lnf(x))Product rule and quotient rule. | Pure 16 | **Ch 7:** 7.1-7.2 Application of forces: Static particles | Mech 9 |  |
| **CHRISTMAS** |  |
| **DATE** | **Pure** | **h/w** | **Applied** | **h/w** | **Unit Test** |
| Tues 4th Jan | **Ch9:** Trig differentiation (including reciprocal trig functions **but not inverses**)Parametric differentiation | Pure 17 | **Ch 7:** 7.3 Statics and friction | Mech 10 |  |
| 10th Jan | **Ch9:** Implicit differentiationUse of second derivativeConnected rates of change | Pure 18+AS PPA | **Ch 7:** 7.4: Static rigid bodies | Mech 11+AS PPE | P2U8 |
| 17th Jan | **Ch 10:** Numerical Methods | Pure 19 +AS PPB | **Ch 7:** 7.5-7.6 Dynamics, inclined planes, connected particles. | Mech 12+AS PPF | M2U7P2U9 |
| 24th Jan | **Ch11:** Integration: Integration as the limit of a sum. Standard integrals and integral of f(ax+b).  | Pure 20+ AL PPA | **Ch 6:** Projectiles 6.1 and 6.2 Horizontal and vertical components | Mech 7AS PPG |  |
| 31st Jan | **Ch 11:** Substitution | Pure 21+AL PPB | **Ch 6:** Projectiles6.3 Projection at any angle6.4 Projectile motion formulae | Mech 8AS PPH |  |
| 7th Feb | **Ch 11:** Trig integrationReverse chain rule (recognition) | Pure 22+AL PPC | **Ch 8:** 8.1-8.2 s u v a t s, vectors with projectiles | Mech 13 | M2U8 |
| **HALF TERM** |  |
| **DATE** | **Pure** | **h/w** | **Applied** | **h/w** | **Unit Test** |
| 21st Feb | **Mock Week (pure paper in hall to include all pure topics up to and including Ch10 numerical methods).** |  |  |
| 28th Feb | **APPLIED MOCK IN FIRST LESSON (to include everything up to w/c 17th Jan inclusive)****Ch11:** Parts | Pure 23+MOCK TARGETS | **APPLIED MOCK IN FIRST LESSON****(to include everything up to w/c 17th Jan inclusive)****Ch 8:** 8.3 variable acceleration in 1D | Mech 14+MOCK TARGETS | P2U10 |
| 7th Mar | **Ch11:** Integration using partial fractionsTrapezium rule | Pure 24+ALPPD | **Ch 8:** 8.4-8.5 vector calculus | Mech 15+ AL PPG | M2U6 |
| 14th Mar | **Ch11:** Differential equations and modelling | Pure 25+AL PPE | [LDS questions](https://crashmaths.com/a-level-learn/) | AL PPH | P2U11 |
| 21st Mar | **Ch 11.8** Parametric Integration**Ch 12:** Vectors in mechanics | Pure 26+AL PPC | Stuff | AL PI | P2U12 |
| 28th Mar | Stuff | AL PPFAL PPL | Stuff | AL PJAL PK |  |
| **EASTER** |  |
| **DATE** | **Pure** | **h/w** | **Applied** | **h/w** | **Unit Test** |
| Tues 19th April | Stuff | AL PPMAL PPN | Stuff | MADAS APPLIEDS |  |
| 25th April | Revision: [Maths Genie](https://www.mathsgenie.co.uk/newalevel.html), Mixed Exercises and practice papers from text books. Madas Papers (difficult), Old Spec papers | AL PPOAL PPP | [LDS questions](https://crashmaths.com/a-level-learn/) | MADAS APPLIEDS |  |
| Tues 3rd May | Revision | AL PPQ+Madas | Revision | MADAS APPLIEDS |  |
| 9th May | LAST WEEK OF LESSONS |  | LAST WEEK OF LESSONS |  |  |

**Exams:**

Paper 1: Pure Mathematics 1 Tuesday 07 June Afternoon 2h 00m

Paper 2: Pure Mathematics 2 Tuesday 14 June Afternoon 2h 00m

Paper 3: Statistics & Mechanics Tuesday 21 June Afternoon 2h 00m