"CORE COURSES" for "deGarisMPC"

Warning : This list is a work in progress, and will be updated as I think of better core courses (texts) that should be in the list, etc.

The whole point of having a "Core Courses Policy" is so that I do not take *too long* in reaching the goals of "deGarisMPC", namely providing graduate level (up to PhD2) courses in (mainly) pure math and math physics (with some computer theory courses thrown in). It takes me time to learn the material, camcord it, process the file, and then upload it to YouTube. I seem to be going at a rate of about one course per several weeks. If I keep at it at a rate of about 20 courses per year, then in 30 years, 3 decades (if I'm still alive) that will be the 600 courses that I talk about.

But, to be practical, it is preferable to camcord the "core courses" first, so that people can learn from them the essentials of graduate level Pure Math and Math Physics fairly soon, like a few years, rather than a decade or more.

So, here is a list (frequently updated) of the Core Courses (Topics) (called the *"Core Topics List")* that I propose to camcord and upload to YouTube in the coming few years. They are listed first according to whether they are a Pure Math or a Physics topic, then (alphabetically) by topic (e.g. algebraic topology, quantum field theory, etc). A second list, called the *"Courses and Texts List"* gives the text book to be used for each course, for each year the topic is taught, in "year level order" (e.g. Sen, M1, M2, PhD1, PhD2).

After this list is a third list, called the *"Upload Sequence List",* which lists the courses (and their corresponding texts) in the time order in which I plan to upload them, with lower year levels first, starting with the Core Courses at undergrad level, then level M1 (first year Masters), then, M2, PhD1, PhD2. I try to alternate between Pure Math courses and Math Physics courses (with some Computer Theory courses thrown in.) *You will see that there are about 120 such core courses in total in the second list (Courses and Texts List), so if I can upload them at a rate of about 20 courses per year, that will take me about 6 years. If I can upload about 15 courses per year, that will take me about 8 years.*

These courses have the following statistics.

Total Core Pure Math Courses = 50

Jun, Sen Level Pure Math Courses = 11
M1 Level Pure Math Courses = 12
M2 Level Pure Math Courses = 18
PhD1 Level Pure Math Courses = 6
PhD2 Level Pure Math Courses = 2

Total Core Math Physics Courses = 60

Jun, Sen Level Math Physics Courses = 4
M1 Level Math Physics Courses = 9
M2 Level Math Physics Courses = 16
PhD1 Level Math Physics Courses = 17
PhD2 Level Math Physics Courses = 14

Total Core Computer Theory Courses = 9

Jun, Sen Level Computer Theory Courses = 2
M1 Level Computer Theory Courses = 4
M2 Level Computer Theory Courses = 3

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Total Core Courses = 121

Jun, Sen Level Courses = 17
M1 Level Courses = 25
M2 Level Courses = 37
PhD1 Level Courses = 23
PhD2 Level Courses = 17

This is a huge commitment and a ton of work. Wish me strength and persistence. The thought that I may end up teaching the brightest few million students around the world in the two toughest subjects, Pure Math and Math Physics, is a very powerful motivator, and being conscious of its impact on the planet, spurs me on.

1)   CORE TOPICS LIST

a) PURE MATH Topics

Abstract Algebra
Algebraic Topology
Complex (and Kahler) Manifolds
Differentiable Manifolds
Differential Forms
Differential Geometry in 3D
Differential Geometry
Differential Topology
Finite Group Theory
Galois Theory

General Topology
Homology/Cohomology
Hyperbolic Geometry
Knot Theory
Lie Algebras
Lie Groups
Linear Algebra
Manifold Theory
Representation Theory
Riemann Surfaces
Riemannian Geometry
Ring Theory
Tensor Calculus

b) MATH PHYSICS Topics

Classical Mechanics
Condensed Matter Field Theory
Conformal Field Theory (CFT)
General Relativity
Lattice Gauge Theory
Loop Quantum Gravity (LQG)
M-Theory
Particle Physics
Physics and Differential Geometry
Physics and Group Theory
Physics and Lie Theory
Physics and Topology
Quantum Chromodynamics
Quantum Electrodynamics (QED)
Quantum Field Theory (QFT)
Quantum Gauge Theory
Quantum Gravity
Quantum Mechanics
Relativistic Quantum Theory
Seiberg-Witten Theory
Special Relativity
String Theory
Supergravity
Supersymmetry
Topological Quantum Field Theory (TQFT)
Weak Interaction Theory

c) COMPUTER THEORY Topics

Computability
Computational Complexity
Quantum Computing
Theory of Computation
Topological Quantum Computing (TQC)

2)   COURSES & TEXTS LIST

a) PURE MATH Topics

Abstract Algebra (2 courses :- Sen, M1)

Abstract Algebra (Sen, Fraleigh) (link)   *not yet videoed*

Abstract Algebra (M1, Hungerford) (link)   *not yet videoed*

Algebraic Topology (2 courses :- M1, M2)

Algebraic Topology (M1, Munkres) (link)   *not yet videoed*

Algebraic Topology (M2, Hatcher) (link)   *not yet videoed*

Complex Analysis (1 course :- Sen, M1)

Complex Analysis (Sen, M1, Brown) (link)   *not yet videoed*

Complex (and Kahler) Manifolds (1 course :- M2)

Complex (and Kahler) Manifolds (M2, Wells) (link)   *not yet videoed*

Differentiable Manifolds   (1 course :- M2)

Differentiable Manifolds (M2, Boothby) (link)   *not yet videoed*

Differential Forms (3 courses :- Sen, M1, M2)

Differential Forms (Sen, M1, Weintraub) (link)   *not yet videoed*

Differential Forms (M1, Darling) (link)   *not yet videoed*

Differential Forms (M2, Bott) (link)   *not yet videoed*

Differential Geometry in 3D (1 course :- Sen)

Differential Geometry in 3D (Sen, M1, Lipschutz) (link)   *not yet videoed*

Differential Geometry (2 courses :- M1, M2)

Differential Geometry (M1, Berger) (link)   *not yet videoed*

Differential Geometry (M2, Chern) (link)   *not yet videoed*

Differential Topology (1 course :- M2)

Differential Topology (M2, Wallace)   (link)   *not yet videoed*

Finite Group Theory (4 courses :- Sen, M1, M2, PhD1)

Finite Group Theory (Jun, Sen, Barnard) (link)   *CURRENTLY BEING VIDEOED*

Finite Group Theory (Sen, M1, Humphreys) (link)   *not yet videoed*

Finite Group Theory (M2, Kurzweil) (link)   *not yet videoed*

Finite Group Theory (PhD1, Aschbacher) (link)   *not yet videoed*

Galois Theory   (2 courses :- Sen, M1)

Galois Theory (Sen, M1, Stewart) (link)   *not yet videoed*

Galois Theory (M1, Rotman) (link)   *not yet videoed*

General Topology (3 courses :- Sen, M1, M2)

General Topology (Sen, M1, Lipschutz) (link)   *not yet videoed*

General Topology (M1, Armstrong) (link)   *not yet videoed*

General Topology (M2, PhD, Novikov) *(link)*   *not yet videoed*

Homology/Cohomology (1 course :- M2)

   Homology/Cohomology (M2, Dubrovin) *(link)*   *not yet videoed*

Hyperbolic Geometry (2 courses :- Sen, M1, M2)

   Hyperbolic Geometry (Sen, M1, Anderson) *(link)*   *not yet videoed*

   Hyperbolic Geometry (M2, Beardon) *(link)*   *not yet videoed*

Knot Theory   (5 courses :- Sen, M1, M2, PhD1, PhD2)

   Knot Theory (Sen, Sossinsky) *(link)*   *not yet videoed*

   Knot Theory (M1, Lickorish) *(link)*   *not yet videoed*

   Knot Theory (M2, Kauffman, Formal) *(link)*   *not yet videoed*

   Knot Theory (PhD1, Kauffman) *(link)*   *not yet videoed*

   Knot Theory (PhD2, Atiyah) *(link)*   *not yet videoed*

Lie Algebras (2 courses :- M1, M2)

   Lie Algebras (M1, Pfeifer) (link)   *not yet videoed*

   Lie Algebras (M2, Humphreys) (link)   *not yet videoed*

Lie Groups   (3 courses :- M1, M2, PhD1)

   Lie Groups (M1, Rossman) (link)   *not yet videoed*

   Lie Groups (M2, Adams) (link)   *not yet videoed*

   Lie Groups (PhD, Chevalley) (link)   *not yet videoed*

Linear Algebra (1 course :- Sen)

Linear Algebra *(Jun, Sen, Lang)* *(link)* *not yet videoed*

Manifold Theory (4 courses :- M2, PhD1, PhD2)

Manifold Theory *(M2, Bishop)* *(link)* *not yet videoed*

Manifold Theory (4-Manifolds) *(PhD1, Donaldson)* *(link)* *not yet videoed*

Manifold Theory (4-Manifolds) *(PhD1, Freedman)* *(link)* *not yet videoed*

Manifold Theory (3-Manifolds) *(PhD2, Kronheimer)* *(link)* *not yet videoed*

Representation Theory (2 courses :- M1, M2)

Representation Theory *(M1, James)* *(link)* *not yet videoed*

Representation Theory *(M2. Isaacs)* *(link)* *not yet videoed*

Riemann Surfaces (2 courses :- M1, M2)

Riemann Surfaces *(M1,2 Springer)* *(link)* *not yet videoed*

Riemann Surfaces *(M2, Farkas)* *(link)* *not yet videoed*

Riemannian Geometry (2 courses :- M2, PhD1)

Riemannian Geometry *(M2, Lee)* *(link)* *not yet videoed*

Riemannian Geometry *(PhD1, Chavel)* *(link)* *not yet videoed*

Ring Theory (2 courses :- Sen, M1, M2)

Ring Theory *(Sen, M1, Irving)* *(link)* *not yet videoed*

Ring Theory *(M2, Lam)* *(link)* *not yet videoed*

Tensor Calculus (1 course :- M1)

Tensor Calculus *(M1, Kay)* *(link)* *not yet videoed*

Total Core *Pure Math* *Courses = 51*

Jun, Sen Level *Pure Math* *Courses = 11*
M1 Level *Pure Math* *Courses = 12*
M2 Level *Pure Math* *Courses = 18*
PhD1 Level *Pure Math* *Courses = 6*
PhD2 Level *Pure Math* *Courses = 2*

b) MATH PHYSICS Topics

Classical Mechanics (1 course :- M1)

  Classical Mechanics (M1, Goldstein) (link)   *not yet videoed*

Condensed Matter Field Theory (2 courses :- M2, PhD1)

  Condensed Matter Field Theory (M2, Altland) (link)   *not yet videoed*

  Condensed Matter Field Theory (PhD1, Tsvelik) (link)   *not yet videoed*

Conformal Field Theory (CFT) (1 course :- PhD1)

  Conformal Field Theory (CFT) (PhD1, di Francesco) (link)   *not yet videoed*

General Relativity (3 courses :- M1, M2, PhD1)

  General Relativity (M1, Foster) (link)   *not yet videoed*

  General Relativity (M2, d'Inverno) (link)   *not yet videoed*

  General Relativity (PhD1, Wald) (link)   *not yet videoed*

Lattice Gauge Theory (1 course :- PhD1)

  Lattice Gauge Theory (PhD1, Smit) (link)   *not yet videoed*

Loop Quantum Gravity (LQG) (1 course :- PhD1)

  Loop Quantum Gravity (LQG) (PhD1, Rovelli) (link)   *not yet videoed*

M-Theory (3 courses :- PhD2)

M-Theory *(PhD2, Kaku)* *(link)*   *not yet videoed*

M-Theory *(PhD2, Duff)* *(link)*   *not yet videoed*

M-Theory *(PhD2, Baulieu)* *(link)*   *not yet videoed*

Particle Physics (4 courses :- Sen, M1, M2, PhD1)

Particle Physics *(Sen, M1, Perkins)* *(link)*   *not yet videoed*

Particle Physics *(M1,2, Kane)* *(link)*   *not yet videoed*

Particle Physics *(M2, Cottingham)* *(link)*   *not yet videoed*

Particle Physics *(PhD1, Mosel)* *(link)*   *not yet videoed*

Physics and Differential Geometry (1 course :- M2)

Physics and Differential Geometry *(M2, Schutz)* *(link)*   *not yet videoed*

Physics and Group Theory (1 course :- M2)

Physics and Group Theory *(M2, Sternberg)* *(link)*   *not yet videoed*

Physics and Lie Theory (2 courses :- M1, M2)

Physics and Lie Theory *(M1, Greiner)* *(link)*   *not yet videoed*

Physics and Lie Theory *(M2, Fuchs)* *(link)*   *not yet videoed*

Physics and Topology (3 courses :- M1, M2, PhD1)

Physics and Topology *(M1, Monastyrsky)* *(link)*   *not yet videoed*

Physics and Topology *(M2, Nakahara)* *(link)*   *not yet videoed*

Physics and Topology *(PhD1, Nash)* *(link)*   *not yet videoed*

Quantum Chromodynamics (2 courses :- M2, PhD1)

   Quantum Chromodynamics (QCD) (M2, PhD, Greiner) (link)   *not yet videoed*

   Quantum Chromodynamics (QCD) (PhD1, Muta) (link)   *not yet videoed*

Quantum Electrodynamics (QED)   (3 courses :- Sen, M1, M2)

   Quantum Electrodynamics (QED) (Sen, Feynman, QED) (link)   *not yet videoed*

   Quantum Electrodynamics (QED) (M1,2, Greiner) (link)   *not yet videoed*

   Quantum Electrodynamics (QED) (M2, Feynman) (link)   *not yet videoed*

Quantum Field Theory (QFT)   (3 courses :- M1, M2, PhD1)

   Quantum Field Theory (QFT) (M1,2, Mandl) (link)   *not yet videoed*

   Quantum Field Theory (QFT) (M2, Kaku) (link)   *not yet videoed*

   Quantum Field Theory (QFT) (PhD1, Itzykson) (link)   *not yet videoed*

Quantum Gauge Theory (2 courses :- M2, PhD1)

   Quantum Gauge Theory (M2, Frampton) (link)   *not yet videoed*

   Quantum Gauge Theory (PhD1, Cheng) (link)   *not yet videoed*

Quantum Gravity (2 courses :- PhD2)

   Quantum Gravity (PhD2, Carlip) (link)   *not yet videoed*

   Quantum Gravity (PhD2, Gambini) (link)   *not yet videoed*

Quantum Mechanics   (3 courses :- Sen, M1, M2)

   Quantum Mechanics (Basic Text) (Sen, Davies) (link)   *not yet videoed*

Quantum Mechanics (Classic Text) (M1, Mandl) *(link)*   *not yet videoed*

Quantum Mechanics (Advanced Text) (M2, Sakurai) *(link)*   *not yet videoed*

Relativistic Quantum Theory (2 courses :- M1, M2)

Relativistic Quantum Theory (M1, Greiner) *(link)*   *not yet videoed*

Relativistic Quantum Theory (M2, Bjorken) *(link)*   *not yet videoed*

Seiberg-Witten Theory (2 courses :- M2, PhD1)

Seiberg-Witten Theory (M2, PhD1, Morgan) *(link)*   *not yet videoed*

Seiberg-Witten Theory (PhD1, Nicolaescu) *(link)*   *not yet videoed*

Special Relativity   (1 course :- Sen, M1)

Special Relativity (Jun, Sen, French) *(link)*   *not yet videoed*

String Theory (7 courses :- PhD2)

String Theory (PhD2, Witten)   *(link)*   *not yet videoed*

String Theory (PhD2, Polchinski)   *(link)*   *not yet videoed*

String Theory (PhD2, Kaku)   *(link)*   *not yet videoed*

String Theory (PhD2, Johnson)   *(link)*   *not yet videoed*

String Theory (PhD2, Ortin)   *(link)*   *not yet videoed*

String Theory (PhD2, Hatfield)   *(link)*   *not yet videoed*

String Theory (PhD2, Bailin)   *(link)*   *not yet videoed*

Supergravity   (1 course :- PhD2)

Supergravity (PhD2, Duff) *(link)*   *not yet videoed*

Supersymmetry   (8 courses :- M2, PhD1)

   Supersymmetry (M2, Aichison) (link)   *not yet videoed*

   Supersymmetry (PhD1, Wess) (link)   *not yet videoed*

   Supersymmetry (PhD1, Dine) (link)   *not yet videoed*

   Supersymmetry (PhD1, Freed) (link)   *not yet videoed*

   Supersymmetry (PhD1, Mohapatra) (link)   *not yet videoed*

   Supersymmetry (PhD1, Weinberg) (link)   *not yet videoed*

   Supersymmetry (PhD1, Varadarajan) (link)   *not yet videoed*

   Supersymmetry (PhD1, West) (link)   *not yet videoed*

Topological Quantum Field Theory (TQFT)   (1 course :- PhD2)

   Topological Quantum Field Theory (TQFT) (PhD2, Kock) (link)   not yet videoed

Weak Interaction Theory   (1 course :- M2)

   Weak Interaction Theory (M2, Greiner) (link)   not yet videoed

Total Core Math Physics Courses = 61

Jun, Sen Level Math Physics Courses = 4
M1 Level Math Physics Courses = 9
M2 Level Math Physics Courses = 16
PhD1 Level Math Physics Courses = 17
PhD2 Level Math Physics Courses = 14

c)   COMPUTER THEORY Topics

Computability   (2 courses :- M1, M2)

   Computability (M1, Homer) (link)   not yet videoed

   Computability (M2, Davis) (link)   not yet videoed

Computational Complexity (2 courses :- Sen, M1)

    Computational Complexity (M1, Papadimitriou) *(link)*   *not yet videoed*

    Computational Complexity (M2, Wegener) *(link)*   *not yet videoed*

Quantum Computing (3 courses :- Sen, M1, M2)

    Quantum Computing (Sen, M1, Audretsch) *(link)*   *not yet videoed*

    Quantum Computing (M1,2, Stolze) *(link)*   *not yet videoed*

    Quantum Computing (M2, PhD, Brylinski) *(link)*   *not yet videoed*

Theory of Computation (2 courses :- Sen, M1)

    Theory of Computation (Sen, M1, Sipser) *(link)*   *not yet videoed*

    Theory of Computation (M1, Lewis) *(link)*   *not yet videoed*

Total Core Computer Theory Courses = 9

Jun, Sen Level Computer Theory Courses = 2
M1 Level Computer Theory Courses = 4
M2 Level Computer Theory Courses = 3

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Total Core Courses = 121

Jun, Sen Level Courses = 17
M1 Level Courses = 25
M2 Level Courses = 37
PhD1 Level Courses = 23
PhD2 Level Courses = 16

3)   **UPLOAD SEQUENCE LIST**

Courses will be uploaded lower-year levels first (i.e. in order, Jun/Sen, then M1, then M2, then PhD1, then PhD2.) Pure Math and Math Physics courses alternate in being uploaded, to keep a balance, with the odd Computer Theory course appearing occasionally.

a)   Jun, Sen (Junior and Senior Levels) (17 courses)

Finite Group Theory (Jun, Sen, Barnard) (link)   *CURRENTLY BEING VIDEOED*

Quantum Mechanics (Basic Text) (Sen, Davies) (link)   *not yet videoed*

Abstract Algebra (Sen, Fraleigh)   (link)   *not yet videoed*

Quantum Electrodynamics (QED) (Sen, Feynman, QED) (link)   *not yet videoed*

Complex Analysis (Sen, M1, Brown) (link)   *not yet videoed*

Differential Forms (Sen, M1, Weintraub) (link)   *not yet videoed*

Quantum Computing (Sen, M1, Audretsch) (link)   *not yet videoed*

Differential Geometry in 3D (Sen, M1, Lipschutz) (link)   *not yet videoed*

Particle Physics (Sen, M1, Perkins) (link)   *not yet videoed*

Galois Theory (Sen, M1, Stewart) (link)   *not yet videoed*

General Topology (Sen, M1, Lipschutz) (link)   *not yet videoed*

Hyperbolic Geometry (Sen, M1, Anderson) (link)   *not yet videoed*

Special Relativity (Jun, Sen, French) (link)   *not yet videoed*

Knot Theory (Sen, Sossinsky) (link)   *not yet videoed*

Linear Algebra (Jun, Sen, Lang) (link)   *not yet videoed*

Theory of Computation (Sen, M1, Sipser) (link)   *not yet videoed*

Ring Theory (Sen, M1, Irving) (link)   *not yet videoed*

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b)   M1 (1st Year Master's Level) (25 courses)

Abstract Algebra (M1, Hungerford) (link)   *not yet videoed*

Computational Complexity (M1, Papadimitriou) *(link)*   *not yet videoed*

Algebraic Topology (M1, Munkres) *(link)*   *not yet videoed*

Classical Mechanics (M1, Goldstein) *(link)*   *not yet videoed*

Differential Forms (M1, Darling) *(link)*   *not yet videoed*

General Relativity (M1, Foster) *(link)*   *not yet videoed*

Differential Geometry (M1, Berger) *(link)*   *not yet videoed*

Particle Physics (M1,2, Kane) *(link)*   *not yet videoed*

Galois Theory (M1, Rotman) *(link)*   *not yet videoed*

Physics and Lie Theory (M1, Greiner) *(link)*   *not yet videoed*

General Topology (M1, Armstrong) *(link)*   *not yet videoed*

Physics and Topology (M1, Monastyrsky) *(link)*   *not yet videoed*

Knot Theory (M1, Lickorish) *(link)*   *not yet videoed*

Quantum Electrodynamics (QED) (M1,2, Greiner) *(link)*   *not yet videoed*

Lie Algebras (M1, Pfeifer) *(link)*   *not yet videoed*

Quantum Field Theory (QFT) (M1,2, Mandl) *(link)*   *not yet videoed*

Lie Groups (M1, Rossman) *(link)*   *not yet videoed*

Quantum Mechanics (Classic Text) (M1, Mandl) *(link)*   *not yet videoed*

Representation Theory (M1, James) *(link)*   *not yet videoed*

Relativistic Quantum Theory (M1, Greiner) *(link)*   *not yet videoed*

Theory of Computation (M1, Lewis) *(link)*   *not yet videoed*

Riemann Surfaces (M1,2 Springer) *(link)*   *not yet videoed*

Computability (M1, Homer) *(link)*   *not yet videoed*

Tensor Calculus (M1, Kay) *(link)*   *not yet videoed*

Quantum Computing (M1,2, Stolze) *(link)*   *not yet videoed*

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c)   M2 (2nd Year Master's Level) (37 courses)

Algebraic Topology (M2, Hatcher) *(link)*   *not yet videoed*

Condensed Matter Field Theory (M2, Altland) *(link)*   *not yet videoed*

Complex (and Kahler) Manifolds (M2, Wells) *(link)*   *not yet videoed*

General Relativity (M2, d'Inverno) *(link)*   *not yet videoed*

Differentiable Manifolds (M2, Boothby) *(link)*   *not yet videoed*

 Particle Physics (M2, Cottingham) *(link)*   *not yet videoed*

Differential Forms (M2, Bott) *(link)*   *not yet videoed*

Physics and Differential Geometry (M2, Schutz) *(link)*   *not yet videoed*

Quantum Computing (M2, PhD, Brylinski) *(link)*   *not yet videoed*

Differential Geometry (M2, Chern) *(link)*   *not yet videoed*

Physics and Group Theory (M2, Sternberg) *(link)*   *not yet videoed*

Differential Topology (M2, Wallace) *(link)*   *not yet videoed*

Physics and Lie Theory (M2, Fuchs) *(link)*   *not yet videoed*

Finite Group Theory (M2, Kurzweil) *(link)*   *not yet videoed*

Physics and Topology (M2, Nakahara) *(link)*   *not yet videoed*

General Topology (M2, PhD, Novikov) *(link)*   *not yet videoed*

Quantum Chromodynamics (QCD) (M2, PhD, Greiner) *(link)*   *not yet videoe*

Homology/Cohomology (M2, Dubrovin) *(link)*   *not yet videoed*

Quantum Electrodynamics (QED) (M2, Feynman) *(link)*   *not yet videoed*

Hyperbolic Geometry (M2, Beardon) *(link)*   *not yet videoed*

Quantum Field Theory (QFT) *(M2, Kaku)* *(link)*   *not yet videoed*

Knot Theory *(M2, Kauffman, Formal)* *(link)*   *not yet videoed*

Quantum Gauge Theory *(M2, Frampton)* *(link)*   *not yet videoed*

Lie Algebras *(M2, Humphreys)* *(link)*   *not yet videoed*

Quantum Mechanics (Advanced Text) *(M2, Sakurai)* *(link)*   *not yet videoed*

Lie Groups *(M2, Adams)* *(link)*   *not yet videoed*

Computational Complexity *(M2, Wegener)* *(link)*   *not yet videoed*

Relativistic Quantum Theory *(M2, Bjorken)* *(link)*   *not yet videoed*

Manifold Theory *(M2, Bishop)* *(link)*   *not yet videoed*

Seiberg-Witten Theory *(M2, PhD1, Morgan)* *(link)*   *not yet videoed*

Representation Theory *(M2. Isaacs)* *(link)*   *not yet videoed*

Supersymmetry *(M2, Aichison)* *(link)*   *not yet videoed*

Riemann Surfaces *(M2, Farkas)* *(link)*   *not yet videoed*

Weak Interaction Theory *(M2, Greiner)* *(link)*   *not yet videoed*

Riemannian Geometry *(M2, Lee)* *(link)*   *not yet videoed*

Computability *(M2, Davis)* *(link)*   *not yet videoed*

Ring Theory *(M2, Lam)* *(link)*   *not yet videoed*

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d)   PhD1 (1st Year PhD Level) (23 courses)

Condensed Matter Field Theory *(PhD1, Tsvelik)* *(link)*   *not yet videoed*

Conformal Field Theory (CFT) *(PhD1, di Francesco)* *(link)*   *not yet videoed*

Finite Group Theory *(PhD1, Aschbacher)* *(link)*   *not yet videoed*

General Relativity (PhD1, Wald) *(link)* *not yet videoed*

Lattice Gauge Theory (PhD1, Smit) (link) *not yet videoed*

Knot Theory (PhD1, Kauffman) (link) *not yet videoed*

Particle Physics (PhD1, Mosel) (link) *not yet videoed*

Physics and Topology (PhD1, Nash) (link) *not yet videoed*

Lie Groups (PhD1, Chevalley) (link) *not yet videoed*

Quantum Chromodynamics (QCD) (PhD1, Muta) (link) *not yet videoed*

Quantum Field Theory (QFT) (PhD1, Itzykson) (link) *not yet videoed*

Manifold Theory (4-Manifolds) (PhD1, Donaldson) (link) *not yet videoed*

Quantum Gauge Theory (PhD1, Cheng) (link) *not yet videoed*

Seiberg-Witten Theory (PhD1, Nicolaescu) (link) *not yet videoed*

Manifold Theory (4-Manifolds) (PhD1, Freedman) (link) *not yet videoed*

Supersymmetry (PhD1, Wess) (link) *not yet videoed*

Supersymmetry (PhD1, Dine) (link) *not yet videoed*

Supersymmetry (PhD1, Freed) (link) *not yet videoed*

Riemannian Geometry (PhD1, Chavel) (link) *not yet videoed*

Supersymmetry (PhD1, Mohapatra) (link) *not yet videoed*

Supersymmetry (PhD1, Weinberg) (link) *not yet videoed*

Supersymmetry (PhD1, Varadarajan) (link) *not yet videoed*

Supersymmetry (PhD1, West) (link) *not yet videoed*

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e) PhD2 (2nd Year PhD Level) (16 courses)

M-Theory (PhD2, Kaku) (link) *not yet videoed*

M-Theory *(PhD2, Duff)* *(link*)   *not yet videoed*

M-Theory *(PhD2, Baulieu)* *(link*)   *not yet videoed*

Quantum Gravity *(PhD2, Carlip)* *(link*)   *not yet videoed*

Quantum Gravity *(PhD2, Gambini)* *(link*)   *not yet videoed*

String Theory *(PhD2, Witten)*   *(link*)   *not yet videoed*

String Theory *(PhD2, Polchinski)*   *(link*)   *not yet videoed*

String Theory *(PhD2, Kaku)*   *(link*)   *not yet videoed*

String Theory *(PhD2, Johnson)*   *(link*)   *not yet videoed*

Knot Theory *(PhD2, Atiyah)* *(link*)   *not yet videoed*

 Manifold Theory (3-Manifolds) *(PhD2, Kronheimer)* *(link*)   *not yet videoed*

String Theory *(PhD2, Ortin)*   *(link*)   *not yet videoed*

String Theory *(PhD2, Hatfield)*   *(link*)   *not yet videoed*

String Theory *(PhD2, Bailin)*   *(link*)   *not yet videoed*

Supergravity *(PhD2, Duff)* *(link*)   *not yet videoed*

Topological Quantum Field Theory (TQFT) *(PhD2, Kock)* *(link*)   *not yet videoed*