



(07/2004)

1.0 Degree Title

Specify the two degrees for concurrent degree programs

Joint Honours in Mathematics and Physics

1.1 Major (Legacy= Subject) (30-char. max.)

**1.2 Concentration (Legacy = Concentration/Option)
If applicable (30 char. max.)**

**1.3 Minor (with Concentration, if applicable)
(30 char. max.)**

1.4 Category

- | | |
|--|--|
| <input type="checkbox"/> Faculty Program (FP) | <input checked="" type="checkbox"/> Honours (HON) |
| <input type="checkbox"/> Major | <input type="checkbox"/> Joint Honours Component (HC) |
| <input type="checkbox"/> Joint Major | <input type="checkbox"/> Internship/Co-op |
| <input type="checkbox"/> Major Concentration (CON) | <input type="checkbox"/> Thesis (T) |
| <input type="checkbox"/> Minor | <input type="checkbox"/> Non-Thesis (N) |
| <input type="checkbox"/> Minor Concentration (CON) | <input type="checkbox"/> Other |
| | Please specify |

1.5 Complete Program Title

Joint Honours in Mathematics and Physics

2.0 Administering Faculty/Unit

Science

Offering Faculty/Department

Physics

3.0 Effective Term of revision or retirement
Please give reasons in 5.0 "Rationale" in the case
of retirement

(Ex. Sept. 2004 = 200409) Retirement

Term: Fall 2011

4.0 Existing Credit Weight Proposed Credit Weight

81

81

5.0 Rationale for revised program

The list of complementary U3 physics courses for the Joint Honours Math/Physics program is almost identical to the list for the Honours in Physics, with the exception that the Honours in Physics list includes PHYS 432 (Physics of Fluids) and PHYS 434 (Optics), which are not included in the Joint Honours list. The physics department has recently revitalized the Physics of Fluids course, and it is our feeling that the course is taught at the U3 level and covers a subject which is mathematically rich. Therefore we feel it appropriate to include PHYS 432 in the complementary U3 course list for Joint Honours Math/Physics students as well.

6.0 Revised Program Description (Maximum 150 words)

(identical to existing program description)

AC-01-95 (REV)

7.0 List of existing program and proposed program

Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

Required Courses:

MATH 235 (3) Algebra 1
MATH 248 (3) Hon. Advanced Calculus
MATH 249 (3) Hon. Complex Variables
MATH 325 (3) Hon. Ordinary Differential Equations
PHYS 241 (3) Signal Processing
PHYS 251 (3) Hon. Classical Mechanics 1
PHYS 257 (3) Experimental Methods 1
PHYS 258 (3) Experimental Methods 2
PHYS 260 (3) Modern Physics and Relativity
MATH 242 (3) Analysis 1
MATH 255 (3) Hon. Analysis 2
MATH 375 (3) Honours Partial Differential Equations
PHYS 253 (3) Thermal Physics
PHYS 350 (3) Hon. Electricity and Magnetism
PHYS 352 (3) Hon. Electromagnetic Waves
PHYS 357 (3) Hon. Quantum Physics 1
PHYS 359 (3) Hon. Laboratory in Modern Physics 1
PHYS 362 (3) Statistical Mechanics
MATH 354 (3) Hon. Analysis 3
MATH 380 (3) Hon. Differential Geometry
PHYS 451 (3) Hon. Classical Mechanics 2
PHYS 457 (3) Hon. Quantum Physics 2

Complementary Courses:

3 credits selected from:

MATH 251 (3) Hon. Algebra 2
MATH 247 (3) Hon. Applied Linear Algebra

3 credits selected from:

MATH 355 (3) Hon. Analysis 4
MATH 370 (3) Hon. Algebra 3

3 credits in Hon. Mathematics

6 credits selected from:

PHYS 479 (3) Hon. Research Project
PHYS 514 (3) General Relativity
PHYS 521 (3) Astrophysics
PHYS 551 (3) Quantum Theory
PHYS 557 (3) Nuclear Physics
PHYS 558 (3) Solid State Physics
PHYS 559 (3) Advanced Statistical Mechanics
PHYS 562 (3) Electromagnetic Theory
PHYS 567 (3) Particle Physics
PHYS 580 (3) Introduction to String Theory

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

Required Courses:

MATH 235 (3) Algebra 1
MATH 248 (3) Hon. Advanced Calculus
MATH 249 (3) Hon. Complex Variables
MATH 325 (3) Hon. Ordinary Differential Equations
PHYS 241 (3) Signal Processing
PHYS 251 (3) Hon. Classical Mechanics 1
PHYS 257 (3) Experimental Methods 1
PHYS 258 (3) Experimental Methods 2
PHYS 260 (3) Modern Physics and Relativity
MATH 242 (3) Analysis 1
MATH 255 (3) Hon. Analysis 2
MATH 375 (3) Honours Partial Differential Equations
PHYS 253 (3) Thermal Physics
PHYS 350 (3) Hon. Electricity and Magnetism
PHYS 352 (3) Hon. Electromagnetic Waves
PHYS 357 (3) Hon. Quantum Physics 1
PHYS 359 (3) Hon. Laboratory in Modern Physics 1
PHYS 362 (3) Statistical Mechanics
MATH 354 (3) Hon. Analysis 3
MATH 380 (3) Hon. Differential Geometry
PHYS 451 (3) Hon. Classical Mechanics 2
PHYS 457 (3) Hon. Quantum Physics 2

Complementary Courses:

3 credits selected from:

MATH 251 (3) Hon. Algebra 2
MATH 247 (3) Hon. Applied Linear Algebra

3 credits selected from:

MATH 355 (3) Hon. Analysis 4
MATH 370 (3) Hon. Algebra 3

3 credits in Hon. Mathematics

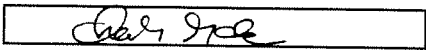
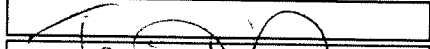



6 credits selected from:

PHYS 432 (3) Physics of Fluids
PHYS 479 (3) Hon. Research Project
PHYS 514 (3) General Relativity
PHYS 521 (3) Astrophysics
PHYS 551 (3) Quantum Theory
PHYS 557 (3) Nuclear Physics
PHYS 558 (3) Solid State Physics
PHYS 559 (3) Advanced Statistical Mechanics
PHYS 562 (3) Electromagnetic Theory
PHYS 567 (3) Particle Physics
PHYS 580 (3) Introduction to String Theory

8.0 Consultation with Related Units Yes No Financial Consult Yes No

Attach list of consultations

9. Approvals

| Routing Sequence | Name | Signature | Date |
|-----------------------|---|--|-----------|
| Department | CHARLES GALE |  | 3/5/10 |
| Curric/Acad Committee |  |  | May 4/10 |
| Faculty 1 |  |  | May 10/10 |
| Faculty 2 | | | |
| Faculty 3 | | | |
| SCTP | | | |
| GS | | | |
| APPC | | | |
| Senate | | | |

Submitted by

| | | |
|-----------------|--|-------------------------|
| Name | | To be completed by ARR: |
| Phone | | |
| Email | | |
| Submission Date | | |

CIP Code

Josie D'Amico

Ac-09-95

From: Guy Moore [guymoore@hep.physics.mcgill.ca]
Sent: Friday, April 23, 2010 4:53 PM
To: Josie D'Amico
Subject: Axel Hundermer's approval

(cores)

Here you see that math approved our change.
guy

From hundemer@math.mcgill.ca Wed Apr 7 14:41:55 2010
Return-Path: <mx0.hep.physics.mcgill.ca>
Subject: Re: another joint hon. math/phys issue
In-Reply-To: <20100401213206.GA27016@hep.physics.mcgill.ca>
Message-ID: <alpine.LFD.2.00.1004071441340.2673@kummer.math.mcgill.ca>
References: <20100401213206.GA27016@hep.physics.mcgill.ca>
User-Agent: Alpine 2.00 (LFD 1167 2008-08-23)
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII; format=flowed
X-PMX-Version: 5.4.2.338381, Antispam-Engine: 2.6.0.325393,
Antispam-Data: 2010.3.26.235421
X-McGill-WhereFrom: Internal
Status: RO
Content-Length: 670
Lines: 25

Hi Guy,

that's fine with us.

Best,
Axel

On Thu, 1 Apr 2010, Guy Moore wrote:

> Dear Axel,
>
> There was a suggestion here in physics that we add the course "PHYS
>332 Physics of Fluids" to the list of U3 complementary physics courses
>for the joint math/physics honours program. This course, which is
>advanced enough that we are going to renumber it to 432, already
>appears on the otherwise almost identical list for our physics honours
>program. (So does optics, but we felt that this course is less
>advanced and less mathematically and theoretically inclined to fit
>well on this
> list.)
>
> What would mathematics think about such a change?
>
> guy
>

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Guy D. Moore
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