

## Ad Hoc B.A. & Sc. Joint Honours in Physics and Philosophy

### **(a) Physics has agreed to 45 credits and specified courses (all set out below)**

#### **To date I have completed 36 credits:**

MATH 247 Honours Applied Linear Algebra  
MATH 248 Honours Advanced Calculus  
MATH 325 Honours ODE's  
MATH 375 Honours PDE's  
PHYS 251 Honours Classical Mechanics 1  
PHYS 253 Thermal Physics  
PHYS 257 Experimental Methods 1  
PHYS 350 Honours Electricity and Magnetism  
PHYS 357 Honours Quantum Physics 1  
PHYS 457 Honours Quantum Physics 2  
PHYS 362 Statistical Mechanics  
PHYS 451 Honours Classical Mechanics 2

#### **By the end of the 2010 Fall term I will have completed 45 credits total and the rest of my Physics requirements**

PHYS 352 Honours Electromagnetic Waves  
PHYS 5\*\* (fulfilled in this case by PHYS 551 Quantum Theory)  
PHYS 5\*\* (fulfilled in this case by PHYS 559 Advanced Statistical Mechanics)

### **(b) Philosophy has agreed to 36 credits made up the following Courses:**

#### **To date I have completed 24 credits:**

PHIL 221 Introduction to History and Philosophy of Science 2  
PHIL 301 Philosophical Fundamentals  
PHIL 361 18<sup>th</sup> Century Philosophy  
PHIL 367 19<sup>th</sup> Century Philosophy  
PHIL 474 Phenomenology  
PHIL 481 Topics in Philosophy  
PHIL 341 Philosophy of Science 1  
PHIL 210 Introduction to Deductive Logic

#### **By the end of the 2011 Winter term I will have completed 36 credits in total**

PHIL 334 Ethics 1  
PHIL 343 Biomedical Ethics  
PHL 498 Tutorial 05  
PHIL 5\*\* (to be chosen from the various options available)

### **(c) Additional Requirements for the BA & Sc Program**

#### **(i) BASC 201 (I will be taking the 3<sup>rd</sup> course in the Winter semester of my 4<sup>th</sup> year)**

(ii) A complementary Integrative Course that can be within one of my programs

- I have completed this requirement (one of my Philosophy courses).

(iii) Three Arts course (other than Philosophy)

- I have two of these courses (English and History)
- I will be taking the 3<sup>rd</sup> course in the Winter semester of my 4<sup>th</sup> year.

#### **CONCLUSION:**

I will readily be able to complete all the courses remaining to satisfy the credit requirements for my proposed degree program in my 4<sup>th</sup> year.

**TO: Nicole Allard  
Director of Advising**

**RE: Request for Approval of an Ad-Hoc Degree Program**

**Date: January 21<sup>st</sup>, 2010**

**1. The Proposed Ad-Hoc Degree Program**

An 81 credit Bachelor of Arts and Science Joint Honours Degree in Physics and Philosophy.

- The Physics Department has approved the joint degree upon my completion of specified courses and a minimum of 45 Physics credits.
- The Philosophy Department has approved the joint degree upon my completion of 36 Philosophy credits.

The approval of each Department is confirmed by their signatures

**3. Due Diligence in Consulting re: this Degree and Completing Necessary Courses**

**(a) Advisors Consulted**

Once I was sure (in 2<sup>nd</sup> year) that I wanted to pursue a Bachelor of Arts and Science with a Joint Honours in Physics and Philosophy I consulted extensively with professors and advisors to ensure that the degree was academically sound and had merit to be formally recognized. The specific advisors I consulted were:

- Paul Oloff, my Bachelor of Arts and Science faculty advisor;
- Emily Carson the undergraduate advisor for the Philosophy Department;
- Fritz Buchinger the undergraduate advisor for the Physics Department; and
- Ken Reagan the (now past) Chair of the Undergraduate Physics Curriculum Committee.

Respecting ultimate Philosophy Department approval, just before the end of winter term last year my proposal received the approval of the Philosophy Department.

Respecting Physics, I worked out a proposal for minimum credits and specific courses with Professor Buchinger, and further discussed the proposal with Professor Reagan. Over the summer Professor Reagan was replaced by Professor Guy Moore as the Chair of the Undergraduate Committee and it was under his chairmanship that the Committee approved my proposal this September, 2009.

**(b) Credits thus far and Credits still to be Completed**

**By April, 2009 I will have completed 60 of the 81 required credits for the proposed program:**

- 36 of the 45 required Physics credits, and,
- 24 of the required 36 Philosophy credits.

**In my 4<sup>th</sup> year (2010/11) I will need just 7 more courses to meet my 81 credit requirement:**

- 3 Physics courses (or 9 more credits), and
- 4 Philosophy courses (or 12 more credits)

**To also satisfy the requirements for a basic Bachelor of Arts and Science Degree:**

- Next year I will take BASC 201 and
- An Arts course (at any level) in an approved discipline other than Philosophy.

In summary, by this April, 2010 I will have completed around 80% of my Philosophy and Physics credit requirements and will be able to complete all degree requirements next year without going over the recommended 5 courses per term limit.

**4. Why an Ad hoc Degree Proposal?**

I did not “fall into” this program. It came about only after a great deal of deliberation and consultation with faculty members. Also, because this is not a standard or typical degree proposal, along the way to getting the approval of both the Physics and Philosophy Departments I had to “sell” the program. That fact and process further required me to think long and hard about my goals, my passions and my future plans.

**My main academic goal is to ultimately do graduate physics research. To that end, I absolutely must have an Honours Physics undergraduate degree** (per the advice of the Physics department). In addition, over the last two years I have increasingly experienced that my studies in Philosophy and Physics greatly inform and enrich each other and I sincerely believe that my philosophy courses are making me a better thinker, communicator and scientist than I otherwise would be. **The honours philosophy designation will acknowledge the importance of that academic training.** Overall, with an honours degree in both disciplines, my hope is that I can better present and “sell myself” as a grad school applicant, i.e. as a student with analytical and logic training in two disciplines, with “extra” analytical verbal argument and writing skills, and, generally, as someone inclined and trained to think “outside the box”.

**There is also strong academic precedent for my proposed degree.** To best assure academic merit I modeled my program after the undergraduate degree program in Physics and Philosophy at Oxford University. The program has been in existence for 40 years and is complemented by both Masters and Doctorate of Philosophy programs. Two excerpts from the Oxford website about the program and future career opportunities follow:

“Physics and Philosophy is a demanding and rewarding course, combining as it does the most rigorous and fundamental subjects in the arts and the sciences. It seeks understanding of the nature of reality and of our knowledge of it. Historically, there have been strong links between physics and philosophy, and the stimulus for each discipline lies in part in the other. The combination of the two provides a powerful background from which to proceed to graduate study in either, or to pursue other diverse careers.”

“Some wonder about career opportunities...the course will...perfectly equip you for a career in research, whether in physics - it is accredited as a physics degree by the Institute of Physics - or in philosophy. From its beginnings in the '60s the course was designed to bridge the "two cultures", humanities and the sciences: graduate from this degree course and you will be both numerate and literate, skilled equally in mathematical and technical reasoning, and in analytical verbal argument and writing. You will be knowledgeable in physics and mathematics, but you will be at home in the humanities. You will find that virtually any door will be open to you.”

In conclusion, it is my respectful submission that my proposed degree program is meritorious and deserving of approval and that I exercised due diligence in extensively first consulting with professors and faculty advisors. If you can see to granting this degree proposal, I assure you that it will prove a constructive, creative and solid stepping stone for my future academic studies.

**Thank you very much for your time and consideration.**