

MEMO

Dean of
Graduate Studies

STREET ADDRESS

Maggie Benston Student
Services Centre 1100
Burnaby BC V5A 1S6
Canada

MAILING ADDRESS

8888 University Drive
Burnaby BC V5A 1S6
Canada

TO Senate

TEL

FROM Wade Parkhouse, Dean, Graduate Studies



RE Faculty of Science

[GS2012.17]

CC Peter Ruben

DATE 7 March 2012

For information:

Acting under delegated authority at its meeting of 5 March 2012, the SGSC moved to approve the following curriculum revisions:

Effective Date is September 2012**Faculty of Science**

[GS2012.17]

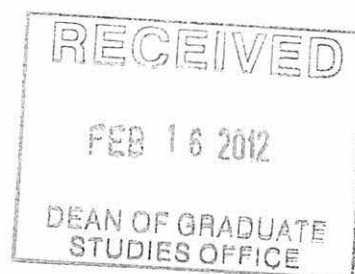
Department of Physics

i) New course:

PHYS 855-3 Modern Optics

Senators wishing to consult a more detailed report of curriculum revisions may do so by going to Docushare: <https://docushare.sfu.ca/dsweb/View/Collection-12682>

If you are unable to access the information, please call [778-782-3168](tel:778-782-3168) or email shelley_gair@sfu.ca.



TO: W. Parkhouse
Dean of Graduate Studies

FROM: P. Ruben, Chair & Associate Dean
Faculty of Science Graduate Studies
Committee

RE: New Course – PHYS 855

DATE: February 14, 2012

The following has been approved by the Faculty of Science and is forwarded for approval by the Senate Graduate Studies Committee. Please include this on the next SGSC agenda.

Physics

New Course – PHYS 855-3 Modern Optics

A handwritten signature in dark ink, appearing to read "P. Ruben", is written over a horizontal line.

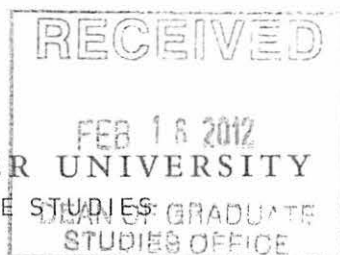
P. Ruben

Enclosure

c. C. Cupples



SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES



New Graduate Course Proposal Form

PROPOSED COURSE

Program (eg. ECON) Phys	Number (eg. 810) 855	Units (eg. 4) 3
Course Title (max 80 characters) Modern optics		
Short Title (appears on transcripts, max 25 characters) Modern optics		
Course Description for SFU Calendar ☐ see attached document ☐ Learning outcomes identified Optical physics, including geometrical and physical optics, waves in anisotropic media, coherence, image formation and Fourier optics, guided wave optics and selected advanced topics such as lasers, nonlinear optics, photonics and quantum optics.		
Available Course Components: ☒ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Grading Basis ☒ Graded ☐ Satisfactory/Unsatisfactory ☐ In Progress/Complete		
Prerequisites (if any) ☐ see attached document		
Permission of the instructor		
☒ This proposed course is combined with an undergrad course: Course number and units: PHYS 455		
Additional course requirements for graduate students ☐ See attached document (if this space is insufficient) Graduate students will complete additional reading, additional assignment problems on advanced topics, and prepare a technical report.		
Campus at which course will be offered (check all that apply) ☒ Burnaby ☐ Vancouver ☐ Surrey ☐ GNW ☐ _____		
Estimated enrolment 10 ugrad + 2 grad	Date of initial offering 1127	Course delivery (eg. 3 hrs/week for 13 weeks) 3hrs/week for 13 weeks
Justification ☐ See attached document This is an advanced undergraduate course that can also serve graduate students in Physics and other disciplines with minimal effort.		

RESOURCES

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Faculty member(s) who will normally teach this course ☐ information about their competency to teach the course is appended Bechhoefer, Dodge, Forde, Frisken, Haljan, Hayden, McGuirk, Thewalt
Number of additional faculty members required in order to offer this course None
Additional space required in order to offer this course ☐ see attached document None
Additional specialized equipment required in order to offer this course ☐ see attached document None
Additional Library resources required (append details) ☐ Annually \$ _____ ☐ One-time \$ _____ Ø - Confirmation attached.

PROPOSED COURSE from first page

Program (eg. ECON) Phys	Number (eg. 810) 855	Units (eg. 4) 3
Course title (max 80 characters) Modern optics		

APPROVAL SIGNATURES

When a department proposes a new course it must first be sent to the chairs of each faculty graduate program committee where there might be an overlap in course content. The chairs will indicate that overlap concerns have been dealt with by signing the appropriate space or via a separate memo or e-mail (attached to this form).

The new course proposal must also be sent to the Library for a report on library resources.

Once overlap concerns have been dealt with, signatures indicate approval by the department, home faculty and Senate Graduate Studies Committee.

Other Faculties

The signature(s) below indicate that the Dean(s) or designate of other Faculties affected by the proposed new course support(s) the approval of the new course.

Name of Faculty	Signature of Dean or Designate	Date

Departmental Approval (non-departmentalized faculties need not sign)

Department Graduate Program Committee <i>J. S. Dodge</i>	Signature <i>J. S. Dodge</i>	Date 8 Feb 2012
Department Chair <i>Simon Watkins</i>	Signature <i>Simon Watkins</i>	Date 8 Feb 2012

Faculty Approval

Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/Department commits to providing the required Library funds and any other necessary resources.

Faculty Graduate Program Committee <i>Peter Zoben</i>	Signature <i>P. Zoben</i>	Date 15 Feb 2012
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Senate Graduate Studies Committee Approval

SGSC approval indicates that the Library report has been seen, and all resource issues dealt with. Once approved, new course proposals are sent to Senate for information.

Senate Graduate Studies Committee <i>W. Parkhouse</i>	Signature <i>W. Parkhouse</i>	Date Mar 6/12
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CONTACT

Upon approval of the course, the Dean of Graduate Studies office will consult with the department or school regarding other course attributes that may be required to enable the proper entry of the new course in the student record system.

Department / School / Program Physics	Contact name Jen Chang	Contact email physmanager@sfu.ca
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PHYSICS 855-3

Modern Optics

TEXTBOOK: “*Optical Physics*”, 4th edition (3rd edition is acceptable)
 Authors: Ariel Lipson, Stephen G. Lipson and Henry Lipson
 Publisher: Cambridge University Press

COURSE DESCRIPTION:

Optical physics, including geometrical and physical optics, waves in anisotropic media, coherence, image formation and Fourier optics, guided wave optics and selected advanced topics such as lasers, nonlinear optics, photonics and quantum optics.

Prerequisites: PHYS 321 or 221; Corequisite: PHYS 385

Quantitative.

COURSE OUTLINE:

1. Geometrical Optics
 - review of elementary notions; matrix formulations
2. Physical Optics
 - review of basic notions of interference, diffraction
 - more advanced notions, including coherence, image formation, anisotropic media, polarization, Fourier methods, guided waves
3. Selected Advanced Topics
 - According to instructor and class interest. Possible topics include lasers, nonlinear optics, photonics and quantum optics

Graduate students taking PHYS 855-3 will complete all of the course requirements of undergraduates taking PHYS 455-3, together with additional reading, additional assignment problems on advanced topics, and a technical report.

GRADING:

Assignments: 20%

Midterms (total): 20%

Participation: 10%

Report: 25%

Final examination: 25%

GENERAL:

Students who cannot write their exam during the course's scheduled exam time must request accommodation from their instructor in writing, clearly stating the reason for this request, before the end of the first week of classes.

PHYSICS 455-3

Modern Optics

TEXTBOOK: “*Optical Physics*”, 4th edition (3rd edition is acceptable)
Authors: Ariel Lipson, Stephen G. Lipson and Henry Lipson
Publisher: Cambridge University Press

COURSE DESCRIPTION:

Optical physics, including geometrical and physical optics, waves in anisotropic media, coherence, image formation and Fourier optics, guided wave optics and selected advanced topics such as lasers, nonlinear optics, photonics and quantum optics.

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3. Selected Advanced Topics
 - According to instructor and class interest. Possible topics include lasers, nonlinear optics, photonics and quantum optics

GRADING:

Assignments: 25%

Midterms (total): 25%

Participation: 15%

Final examination: 35%

GENERAL:

Students who cannot write their exam during the course's scheduled exam time must request accommodation from their instructor in writing, clearly stating the reason for this request, before the end of the first week of classes.

SFU Connect

physgrad@sfu.ca

[±](#) Font Size [-](#)

Re: New Graduate Course Proposal - Physics

From : Ivana Niseteo <iniseteo@sfu.ca>

Tue, Feb 07, 2012 08:45 PM

Subject : Re: New Graduate Course Proposal - Physics**To :** physgrad@sfu.ca**Cc :** Todd Mundle <tmundle@sfu.ca>, iniseteo@sfu.ca

Hi Rose,

My apologies for the delay.

I can confirm that no additional library resources will be required to support the proposed course PHYS 855 : *Modern Optics*, as it is a cross-listing. I have added the course to the appropriate list on the Library Course Assessments page at <http://www.lib.sfu.ca/collections/course-assessments> , and this will be adequate proof of library sign-off.

Best regards,
Ivana

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Ivana Niseteo, MA, MLIS  
Collections Librarian  
Liaison Librarian for Linguistics, French, Humanities, French Cohort in Arts  
Bennett Library, Simon Fraser University  
Tel: 778.782.6838 | Fax: 778.782.6926 | iniseteo@sfu.ca

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**From:** "Physics Graduate Secretary SFU" <physgrad@sfu.ca>**To:** "Todd Mundle" <tmundle@sfu.ca>**Sent:** Tuesday, 31 January, 2012 10:04:25**Subject:** New Graduate Course Proposal - Physics

Hi Todd,

Please find attached a new course proposal and outline for PHYS 855. This is a cross-listing of the existing undergraduate course PHYS 455; I've included that outline as well. Please let me know if you need anything else for the library report. If it's possible to have the report by the end of this week (Feb 3), that would be great.

Many thanks,  
Rose

Ms. Rose Evans  
Graduate Secretary  
Department of Physics  
Simon Fraser University  
P8429 - 8888 University Drive  
Burnaby, BC V5A 1S6  
Tel: 778.782.4310  
Fax: 778.782.3592  
Email: physgrad@sfu.ca

Web: [physics.sfu.ca](http://physics.sfu.ca)

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Todd M. Mundle  
Associate University Librarian  
Collections and Scholarly Communications  
[tmundle@sfu.ca](mailto:tmundle@sfu.ca)  
Voice: 778.782.3263  
Fax: 778.782.3023

W.A.C. Bennett Library, Simon Fraser University  
8888 University Drive, Burnaby, BC CANADA V5A 1S6

SFU Library. Ask. Explore. Discover.

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**SFU Connect****sheilagh@sfu.ca**

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**Re: PHYS 855 overlap check**

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**From :** Rosemary H. <rosemary.hotell@gmail.com>

Mon, Feb 20, 2012 07:19 PM

**Subject :** Re: PHYS 855 overlap check**To :** Sheilagh MacDonald <sheilagh@sfu.ca>**Reply To :** hotell@sfu.ca

Re: Phys 855

On Mon, Feb 20, 2012 at 10:38 AM, Duncan Knowler <[djk@sfu.ca](mailto:djk@sfu.ca)> wrote:  
Hi rosemary, no concerns for FENV with this course.

Cheers

Duncan Knowler  
Associate Dean, FENV

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Rosemary Hotell  
Dean of Science Office, TASC2 9905  
Simon Fraser University

Telephone 778 782-3772  
Fax 778 782--3424

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COPY

SFU

**TO:** Associate Deans – Arts & Social  
Sciences, Applied Sciences,  
Education, Health, Environment,  
Business Administration,  
Communication, Art & Technology

**FROM:** P. Ruben, Associate Dean & Chair  
Faculty of Science Graduate  
Studies Committee

**RE:** New Course – PHYS 855

**DATE:** February 14, 2012

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Please check the enclosed new course for overlap and/or any other difficulties.

Please indicate your comments, on the cover memo, and return it to Rosemary Hotell  
through campus mail, or by e-mail to hotell@sfu.ca.

Thanks.

*Feb 16, 2012*

*OK - No overlap with  
Health Sciences.*

*maps more*

