Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
Submit original form and 2 copies. Attach a course syllabus to each.

1. This request is submitted by the Department of Physics

2. Course prefix, number and complete title PHYS 614: Introduction to Methods of Mathematical Physics

3. Course description (not more than 50 words) a one-semester introduction to mathematical methods routinely encountered in the graduate study of physics: directed at physics students whose background has not adequately prepared them for enrollment in PHYS 615 Methods of Theoretical Physics I.

4. Prerequisite(s) approval of instructor Cross-listed with N/A

5. Is this a variable credit course? □ Yes □ No If yes, from ______ to ______.

6. Is this a repeatable course? □ Yes □ No If yes, this course may be taken _____ times. Will the course be repeated within the same semester/term? □ Yes □ No

7. Has this course been taught as a 489/689? □ Yes □ No If yes, how many times? 2 Indicate the number of students enrolled for each academic period it was taught: 09C (5); 09C (9)

8. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history) N/A
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography) MS in physics; PhD in physics

9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

10. Prefix Course # Title (exclude punctuation)
    PHYS 614 INTRODUCTION TO METHODS

    Lect. Lab SCH Subject Matter Content Code Admin. Unit Acad. Year FICE Code
    0 4 0 0 0 4 0 0 8 0 1 0 0 2 2 3 0 0 8 0 9 0 0 3 6 3 2

    Do not complete shaded area.

    Approval recommended by: [Signature]
    Head of Department Date 11/28/07
    Chair, College Review Committee Date 11/29/07
    Dean of College Date 11/29/07

    Submitted to Coordinating Board by: [Signature]
    Dean of College Date

    Director of Academic Support Services Date
    Effective Date

To have this form reviewed, please send to Linda F. Lacey, Mail Stop 1265 or fax to 847-8737.
OAR/AS-5/04
**PHYS 614: INTRODUCTION TO METHODS OF MATHEMATICAL PHYSICS**

**FALL 2008**

Dr. John Reading  
ENPH 505  
845.5073  
reading@physics.tamu.edu

**FORMERLY**  PHYS 689.603


**GRADING**  
- homework  60%
- midterm exam  20%
- final exam  20%

**TOPICS**  
- vectors  
- matrices  
- linear vector spaces  
- complex variables  
- contour integration  
- ordinary differential equations  
- Fourier series  
- Fourier and LaPlace transforms  
- Sturm-Liouville theory  
- Green functions

**DESCRIPTION**

An introductory survey of mathematical methods finding broad application in classical and modern physics directed at physics students whose undergraduate preparation in one or more topics from the list above is not adequate for enrollment in PHYS 615 Methods of Theoretical Physics I.

Registration determined via a diagnostic placement exam administered by the course instructor. Topic selection and emphasis may vary from year to year depending on the particular backgrounds of those enrolled.

4 credit hours
Adrienne Bentz

From: Teruki Kamon [kamon@physics.tamu.edu]
Sent: Wednesday, November 28, 2007 8:57 AM
To: Adrienne Bentz
Cc: Dr. Fred Dahm; kgoldman@mail.bio.tamu.edu; benedik@tamu.edu; Dr. Michael Rosynek; Michael Speed; Dr. Paulo Lima-Filho; kattawar@tamu.edu; hyman@mail.chem.tamu.edu; randall@stat.tamu.edu; stewart@math.tamu.edu; smiths@tamu.edu; sandra@stat.tamu.edu; Sandy Manning; s-jones@physics.tamu.edu; kamon@physics.tamu.edu; Mark Zoran

Subject: Re: new course request

Dear all:

Since I am on travel, I cannot attend the GIC meeting today.

So a few words regarding PHYS 614:

This course is carefully crafted by consulting with the MATH department -- because the contents are math topics. This course is **only** for PHYS graduate students (who are accepted with not-well-prepared math background) to bring them up to the speed in one semester.

Teruki

> Please find the following new course request PHYS 614 for your review.
> We will be discussing today at GIC at 2:30pm. If you have any questions please let me know.
>
> Thank you, Adrienne
>
> Adrienne Bentz
>
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> Texas A&M University
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>
> Be curious.