New Course Request

Indiana University

Indianapolis Campus

Check Appropriate Boxes: Undergraduate credit [X]  Graduate credit [ ]  Professional credit [ ]

1. School/Division  Science / Mathematical Sciences  2. Academic Subject Code  MATH

3. Course Number: 165 (must be cleared with University Enrollment Services)  4. Instructor

5. Course Title: Calculus and Analytic Geometry I

Recommended Abbreviation (Optional) (Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Fall 2008

7. Credit Hours: Fixed at 4 or Variable from to

8. Is this course to be graded S-F (only)? Yes [ ] No [X]

9. Is variable title approval being requested? Yes [ ] No [X]

10. Course description (not to exceed 50 words) for Bulletin publication: P: 159 or 154 (minimum grade of C) or equivalent and one year of high school geometry. Fall, Spring, Summer. Introduction to differential and integral calculus of one variable, with applications. The Fundamental Theorem of Calculus.

11. Lecture Contact Hours: Fixed at 4 or Variable from to

12. Non-Lecture Contact Hours: Fixed at 0 or Variable from to

13. Estimated enrollment: 280 Fall, 150 Spring, of which 0 percent are expected to be graduate students.

14. Frequency of scheduling: Every Sem. Will this course be required for majors? Yes [ ]

15. Justification for new course: New course replaces MATH 163; change in credit hours from 5 to 4.

16. Are the necessary reading materials currently available in the appropriate library? Yes [ ]

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:  
Bakin Baker  Date 2/12/08

Department Chairman/Division Director

Approved by:  
[Signature]  Date 3/7/08

Dean

Dean of Graduate School (when required)

Chancellor/Vice-President

Date

University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

UPS 724  
University Enrollment Services Final—White; Chancellor/Vice-President—Blue; School/Division—Yellow; Department/Division—Pink; University Enrollment Services Advance—White
6. Applications on Integrals

(a) All sections

(b) Section 6.4 should be covered but take into account that the students have not seen work, variation or proportion before

(c) Section 6.5 should be covered with the instructor deciding how much to emphasize the material
MATH 165
Calculus & Analytical Geometry I

Syllabus
Listed are the sections of the text that must be covered. Other sections can be covered at the instructors discretion. There should be ample time to cover some other sections.

1. Functions and models
   (a) Appendices A and C
   (b) Section 1.3

2. Limits and Rates of Change
   (a) All sections
   (b) Section 2.4 must be covered but the instructor can decide how much to emphasize the material, possibly examining the definition for linear functions only

3. Derivatives
   (a) All sections
   (b) In section 3.7 the physics applications must be covered and the instructor can decide how much to emphasize the biological and economic material
   (c) In section 3.9 linear approximations must be covered and the instructor can decide how much to emphasize differentials

4. Applications of Derivatives
   (a) Sections 4.1 to 4.5, 4.7 and 4.9 must be covered
   (b) Section 4.3 requires additional attention since it contains both the first and second derivative tests
   (c) Instructors may want to cover section 4.8

5. Integrals
   (a) All sections
   (b) In section 5.4 the indefinite integral must be covered but the Net Change Theorem is optional
### PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION, OR REVISION OF AN UNDERGRADUATE COURSE
(100-400 LEVEL)

**DEPARTMENT** Mathematical Sciences  
**EFFECTIVE SESSION** Fall 2008

**INSTRUCTIONS:** Please check the items below which describe the purpose of this request.

- New course with supporting documents
- Add existing course offered at another campus
- Expiration of a course
- Change in course number
- Change in course title
- Change in course credit/credit
- Change in course attributes (department head signature only)
- Change in instructional hours
- Change in course description
- Change in course requisites
- Change in semesters offered (department head signature only)
- Transfer from one department to another

**PROPOSED:**

<table>
<thead>
<tr>
<th>Subject Abbreviation</th>
<th>MATH</th>
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<tbody>
<tr>
<td>Course Number</td>
<td>165</td>
</tr>
<tr>
<td>Long Title</td>
<td>Calculus and Analytic Geometry I</td>
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<tr>
<td>Short Title</td>
<td></td>
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Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)

<table>
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<th>CAMPUS INVOLVED</th>
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**TERMS OFFERED:** Check All That Apply

- Summer
- Fall
- Spring

**CREDIT TYPE**

| 1. Fixed Credit: Cr. Hrs. |
| 2. Variable Credit Range: |
| Minimum Cr. Hrs. To Cr. Hrs. |
| Maximum Cr. Hrs. |
| Equivalent Credit: Yes |
| Special Fees |

**COURSE ATTRIBUTES:** Check All That Apply

- Pass/No Pass Only
- Satisfactory/Unsatisfactory Only
- Repeatable
- Credit By Examination
- Designator Required
- Special Fees

<table>
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<tr>
<th>Instructional Type</th>
<th>Minutes Per Mlg</th>
<th>Meetings Per Week</th>
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**Calumet Department Head Date**  
Calumet School Dean Date

**Fort Wayne Department Head Date**  
Fort Wayne School Dean Date

**Indianapolis Department Head Date**  
Indianapolis School Dean Date

**North Central Department Head Date**  
North Central Chancellor Date

**West Lafayette Department Head Date**  
West Lafayette College School Dean Date  
West Lafayette Registrar Date

**OFFICE OF THE REGISTRAR**