

Characteristics of Successful Programs in College Calculus - Course

Your college or university has been selected to be part of a national survey of calculus instruction across the United States. This research project is conducted by the Mathematical Association of America. We greatly appreciate your help in facilitating this survey of your calculus instructors and their students. As a course coordinator for calculus, we are asking you to complete a brief questionnaire about your calculus courses including departmental support for teaching, technologies that are available for use in this course, placement policies, and support services that are provided for students.

We are also asking you for the names and contact information for those who will be teaching Calculus I in the coming fall term. You will have an opportunity to update this list in the week before your classes begin.

All information that you submit will be held in complete confidence and your participation is voluntary. A summary of the information about the students, aggregated across all sections of calculus will be provided to the chair of the mathematics department, but no information about the instructors, either individually or in aggregate, will be reported to anyone at your institution. By continuing on to complete the survey you consent to participate in this study.

If you have any questions about this project, please contact Olga Dixon at (202) 319-8498 or via e-mail odixon@maa.org.

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1. In your department:

| | Frequently | Sometimes | Rarely | Never |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| Instructors who excel in the classroom are publicly acknowledged and/or rewarded for their teaching excellence. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Instructors are encouraged to pursue professional development to improve their teaching. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Financial support is provided to attend conferences in which the teaching of undergraduate mathematics is a primary focus. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Calculus I instructors meet as a group. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

2. In your department:

| | Significant | Moderate | Weak | None |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| What weight is given to excellence in teaching for <i>untenured</i> faculty for promotion and compensation? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| What weight is given to excellence in teaching for <i>tenured</i> faculty for promotion and compensation? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

3. Your department:

| | Yes | No |
|---|-----------------------|-----------------------|
| Requests that all invited colloquium speakers include portions of their talks that are accessible to first year students. | <input type="radio"/> | <input type="radio"/> |
| Has interdisciplinary tracks within the undergraduate program (e.g., financial mathematics, mathematical biology). | <input type="radio"/> | <input type="radio"/> |
| Has a department website that houses resource materials to support students' entry into the field of mathematics. | <input type="radio"/> | <input type="radio"/> |
| Sponsors student participation in math competitions. | <input type="radio"/> | <input type="radio"/> |

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4. Your department:

| | Very Active | Active | Somewhat Active | Not Active | Non-existent |
|---|-------------|--------|-----------------|------------|--------------|
| Has a program to recruit promising high school students. | jn | jn | jn | jn | jn |
| Has a program to recruit students from undeclared or undecided majors. | jn | jn | jn | jn | jn |
| Has a program that matches promising students with faculty mentors. | jn | jn | jn | jn | jn |
| Has a program that matches promising students with upper-classmen or graduate students. | jn | jn | jn | jn | jn |
| Has a guest lecture series accessible to first year students. | jn | jn | jn | jn | jn |
| Has a career fair specifically targeted at careers in mathematics. | jn | jn | jn | jn | jn |
| Has a standing department committee for the purpose of promoting mathematics as a major and recruiting/nurturing math students. | jn | jn | jn | jn | jn |

5. How many times per year does your department have professional development activities or speakers related to the teaching of undergraduate mathematics?

jn 0

jn 1-2

jn 3-4

jn 5 or more times per year

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6. How many times per year does your department arrange opportunities for mathematicians and undergraduates to interact informally?

0

1-2

3-4

5 or more times per year

7. Which of the following technologies are provided by your department or institution for use by instructors of your mainstream Calculus I courses? *Check all that apply*

| | Available | Recommended | Required | Training Available |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| Clickers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mathematica, Maple, Matlab, etc | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Graphing calculators | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Online course websites | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Online homework | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Java applets or other computer animations | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Other technology:

8. Are Calculus I courses usually taught in a room equipped with a computer projection system?

Yes

No

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9. If your department has any of the following programs for TA's, please rate the effectiveness of the program.

| | Very Effective | Effective | Minimally Effective | Not Effective | Not Applicable |
|--|----------------|-----------|---------------------|---------------|----------------|
| Pairs new TA's with faculty mentors. | jn | jn | jn | jn | jn |
| Seminar or class for the purpose of TA's professional development. | jn | jn | jn | jn | jn |
| Other program (different from the two above) for TA mentoring or professional development. | jn | jn | jn | jn | jn |
| Interview process to select prospective TA's. | jn | jn | jn | jn | jn |
| Screen TA's before assigning them a recitation section. | jn | jn | jn | jn | jn |
| Faculty observation of TA's for the purpose of evaluating their teaching. | jn | jn | jn | jn | jn |

10. Check all opportunities available to your Calculus I students:

- Honors sections of Calculus I
- Mathematics club
- Special mathematics programs to encourage women
- Special mathematics programs to encourage minorities
- Mathematical contests
- Special mathematics lectures/colloquia not part of a mathematics club
- Mathematics outreach to local K-12 schools
- Participation in undergraduate research in mathematics
- Independent study
- Assigned faculty advisors
- Other (specify):

11. Does your department or college administer a mathematics placement test for students entering Calculus I?

Yes

No

12. Who created your placement test(s)? *Check all that apply.*

- Your department
- Educational Testing Service (ETS)
- American College Testing Program (ACT)
- Mathematical Association of America
- Another external source (please specify):

13. Is it usually the case that students who fail the placement exam for Calculus I are prevented from enrolling in Calculus I?

- Yes
- No

14. Does your department, college or university operate a mathematics tutoring center available to Calculus I students?

Yes

No

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15. Check all services available to students through your mathematics tutoring center:

- Computer-aided instruction
- Computer software such as Maple, Mathematica, Matlab, etc
- Internet resources
- Media such as CDs or DVDs
- Organized small group tutoring or study sessions
- Tutoring by undergraduate students
- Tutoring by graduate students
- Tutoring by paraprofessional staff
- Tutoring by part-time mathematics faculty
- Tutoring by full-time mathematics faculty
- Other mathematics lab or tutoring center services (specify):

16. Please select the most appropriate response:

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| Students in Calculus I take advantage of the tutoring center. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Thank you for completing this survey. As the final step, we would like you to provide data on your courses and instructors. Please click the “Continue” button below, it will redirect you to a page where you can enter this information.

