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YEAR 4
AND WE'RE STILL GOING STRONG!

To think that this year our first class of 1984-85 will be juniors in college! We can now wryly look back at some of our early stumbling attempts to discover just what the MPI should be and how it should be conducted, and be proud of the teamwork of everyone involved (and there are MANY; see Teddy Lambson's article later in this newsletter) that has molded us into the solid program we now believe we have.

Our goals have crystallized over the last three years, and we now think we offer the following advantages, above and beyond the chance to get free and early college credit:

Solid, personalized Teaching with an emphasis on learning to THINK about mathematics and physics.

A lively and unusual biweekly enrichment program.

An enlightening, and sometimes shocking plunge into a college atmosphere of study and responsibility.

The cross-fertilization of 60-70 bright students, creating for them a challenge and comradery difficult to find elsewhere.

We hope that this year's class will help us refine and strengthen these goals by

wholeheartedly participating in the MPI team effort. Every class so far has made its mark on our structure, and we have no doubt that this one will be no exception!

STUDENT ORIENTATION

SEPT. 9 - 11, 1987

The first three days of the Institute each year are spent in giving our students an overview of how we operate, a discussion of our policies on attendance, grading, etc., and two diagnostic tests. Time is then set aside for the instructors to informally 'get to know' their classes before we all become preoccupied with classwork.

On the first day, Sept. 9, 1987, we'll give each student a packet of information, and have each of them fill out a personal data form, requiring that they bring with them the following information:

Social Security Number

Daily Schedule of High School Classes

Schedule of Extracurricular Activities

High School Counselor's Name

Ideas for Enrichment speaker topics

Car License Number, Make and, Model for those ever planning to drive to the Institute.

Otherwise, we look forward to seeing our newest class of MPI students on Wed. Sept. 9!

PHYSICS

Maria Aguilera	Fort Osage
Tim Bacchus	William Chrisman
Eugene Bae	Raytown
Suzanne Breshears	Truman
Kevan Brewer	Northeast
Bob Brooks	Van Horn
John Buckley	Truman
Hoa Bui	Northeast
Thien Bui	Northeast
Allan Bush	Truman
Eric Butkovich	Raytown
Kim Gallagher	Fort Osage
Cindy Gillespie	Raytown
Brett Gordon	Truman
Darrell Kempker	Van Horn
Kent Lauer	Raytown South
Pat Liang	Truman
Linh Phan	Northeast
Matt Strahan	Raytown
John Tibbetts	Van Horn
Leanna Van Tuyl	William Chrisman
John Winkler	Truman

THE 1987 MPI AWARDS PRESENTATION

THE TOP 10 MPI STUDENTS OF 1986-87

Our final awards presentation was held on May 22, 1987, during which we were pleased to present many of our 1986-87 students with the following variety of awards:

Certificates for Outstanding Achievement (college grade of A or B) in:

CALCULUS I

(Name)	(School)
Tim Bacchus	William Chrisman
Kevan Brewer	Northeast
Bob Brooks	Van Horn
Hoa Bui	Northeast
Thien Bui	Northeast
Cindy Gillespie	Raytown
Brett Gordon	Truman
Darrell Kempker	Van Horn
Kent Lauer	Raytown South
Caroline Morgan	William Chrisman
Caroline Noah	William Chrisman
John Pritchett	William Chrisman
Kenny Sessa	William Chrisman
John Tibbetts	Van Horn
Leanna Van Tuyl	William Chrisman

CALCULUS I and II

Maria Aguilera	Fort Osage
Eugene Bae	Raytown
Suzanne Breshears	Truman
John Buckley	Truman
Allan Bush	Truman
Eric Butkovich	Raytown
Ken Hill	Raytown
John Winkler	Truman

We also honored the top 10 students (ranked according to their composite calculus and physics grade point averages) by giving them a useful CRC science and mathematics reference book:

TOP 10 MPI STUDENTS 1986-87

- | | |
|----------------------|-------------|
| 1) John Buckley | Truman |
| 2) John Winkler | Truman |
| 3) Maria Aguilera | Fort Osage |
| 4) Eugene Bae | Raytown |
| 5) Eric Butkovich | Raytown |
| 6) Cindy Gillespie | Raytown |
| 7) Suzanne Breshears | Truman |
| 8) Thien Bui | Northeast |
| 9) Leanna Van Tuyl | Wm Chrisman |
| 10) Darrell Kempker | Van Horn |

Finally, the MPI granted 5 Chancellor's Award Scholarships to students planning to attend UMKC, whom we believe can maintain a B average in their college work:

MPI 1986-87 CHANCELLOR'S AWARDS

Bob Brooks	Van Horn
Thien Bui	Northeast
David Chancellor	Northeast
Linh Phan	Northeast
John Tibbetts	Van Horn

"...AND THEN THERE ARE THE
COUNSELORS"

As we brought our third academic year to a close and began preparations for a fourth, we found ourselves reflecting on just what it is that makes this anomaly called the Mathematics and Physics Institute work. Not much reflection is required to recognize that it works because the people involved at all levels COOPERATE; the Institute is a team effort with an unusual assortment of team players.

An essential segment of the team is made up of personnel in the high schools ... main office people like JANET BAIRD, Coordinator of Instruction at East; MAURICE GIBLER, Assistant Principal at Raytown; and PATTI HANSEN-FINDLEY, Coordinator of Instruction at Van Horn, as well as those behind-the-scenes people, the high school principals: MARVIN BROOKS, Van Horn; LEROY BROWN, Truman; STEPHEN BROWN, Northeast; CLARENCE COX, Raytown South; RICHARD FRANKLIN, Fort Osage; PAUL GRAFF, Raytown; TOM HERRICK, William Chrisman; FRANCES HOUSER-ROGERS, formerly Van Horn; and OLIVER SPENCER, East.

And then there are the counselors ... those enormously busy team members who have had to add the needs of the Institute to their long list of responsibilities. We at the Institute depend on the support of the counselors; they are the Institute's main promoters and

facilitators within the high schools. We are grateful for the job they do.

Those counselors with whom we have worked the closest at various times over the past three years include: LUCINDA BRITTON, East; JOYCE CARUTHERS, Van Horn; KEITH ELMORE, formerly Fort Osage; MARY FRIEND, William Chrisman; ALBERT GARHARDT, William Chrisman; ANN KOEHLER, Fort Osage; VIRGIL LIEBOLD, Van Horn; RICK LONG, Fort Osage; JAKE SHERER, Raytown South; CLARETHA SHUMATE, Northeast; LARRY STARNES, Raytown; and BUELL STEWART, Truman. We look forward to our continued association with these individuals and, during the coming year, to working more closely with two additional counselors...JOE HAINES, Raytown South, and BILL McCANE, William Chrisman. Indeed, this game's most valuable player award goes to that special team ... the high school counselors.

Teddy Lambson

MPI CLASS SECTIONS --
HOW DO WE DIVIDE THEM UP, ANYWAY?

The MPI students are divided into four sections, labeled simply A,B,C, and D. Since our enrollment is usually about 60 - 70 students, this insures that a student will be in a class of no more than 15-18 students.

Section C consists of those students who elected to take both Calculus I and Calculus II, as well as Physics, while sections A, B, and D contain all other students, i.e., those taking only Calculus I and Physics. These last three sections are divided so as to spread out students as evenly as possible according to their High Schools, Calculus Readiness Test Scores, and sex. Except for

this general distribution, students are randomly placed into these three sections, and NO distinction is made between them.

This year's sections are:

Section A

Ryan Baker	Truman
Mary Best	Northeast
Ernst Binney	Van Horn
Jim Brown	William Chrisman
Traci Brown	Van Horn
Eric Butcher	Raytown
Gerald Cloe	East
Danielle Dent	William Chrisman
Dung Ho	Northeast
Miguel Hutton	William Chrisman
Wendy Jackson	Van Horn
Sean Mohn	William Chrisman
Kelly Nance	Van Horn
San Ngo	Northeast
James Smith	Fort Osage
Chi Tran	Northeast
Vanessa White	William Chrisman
Wendy Wilhelm	Fort Osage

Section B

Souchitta Bouphanouvong	Northeast
Jim Cady	Truman
Tonia Carter	William Chrisman
Carla Cochran	Northeast
Carrie Coe	William Chrisman
Mike Doss	Fort Osage
John Dotson	Van Horn
Kim Greathouse	Van Horn
Kelli Lyons	Van Horn
Teng Meng	Northeast
Thanh Nguyen	Northeast
Jamie Ryan	Van Horn
Jason Stabenow	Fort Osage
Jack Stauffer	William Chrisman
Elizabeth VanDierendonk	Northeast
Kevin White	Raytown
Desmond Wilkins	Van Horn
Lloyd Williamson	William Chrisman

Section C

Stephen Gentry	Van Horn
Nate Moore	William Chrisman
Keith Smith	Truman
Hien Tran	Northeast
Kim Wehmeyer	Fort Osage
Jeremy White	Truman

Section D

Steve Aubuchon	Fort Osage
Carl Bryant	William Chrisman
Gary Carty	William Chrisman
Ann Catlin	Northeast
Gavin Clyma	William Chrisman
Kent Gardner	Van Horn
James Horak	Raytown
Cynda Kleeman	Van Horn
Michele Kliebert	Van Horn
Dana Meade	Van Horn
Cuong Nguyen	Northeast
Chris Nielson	Truman
Souphaphone Nonthaveth	East
Charly Pine	William Chrisman
John Rocco	Northeast
Dinh Tran	Northeast
Yolanda Woods	Fort Osage
Angela Worley	Van Horn

These are the total of 60 students enrolled as of this newsletter, though of course enrollment won't settle down until the end of September.

THE 1987-88 STAFF

Our staff once again includes those high school teacher veterans of past years:

In Physics,

Larry Harding	from	Fort Osage,
Calvin Nelson	from	Northeast,

and, in Mathematics,

Sheri Adams from Truman,
Joe Kaifes from Van Horn,
Al Morse from Wm Chrisman,
& Charlie Watts from Raytown,

while our University staff is listed above in the heading of this newsletter.

UPCOMING ENRICHMENTS

One of the special features of the Institute is its biweekly enrichment series, in which on alternate Wednesdays either professionals in the sciences, engineering, mathematics, etc. speak to our MPI students, or we have a field trip, to such places as the nuclear reactor in Columbia, or Worlds of Fun to do some 'hands on' physics.

The October 1 newsletter will report on those speakers scheduled for October and beyond, though we can hint here that in late October the MPI will be honored to host (for the second time!) a mathematician of international reknown in a special two hour enrichment.

The year's first enrichment speaker will be Dr. Mary Guttmacher of UMKC during our initial three days of orientation. She will visit on Friday, Sept. 11, and speak about college admissions in general, and the importance of thinking about applications EARLY. (This is not by any means a recruitment for UMKC, but a general discussion to help sensitize our students to the importance for colleges of deadlines.)

During the first two weeks of classes at the MPI we also will spend two days discussing four topics that we have come to

believe are vital study and college survival skills that are too often not directly addressed. Specifically these are: NOTE-TAKING, TEST-TAKING, READING A TEXTBOOK, and lastly, and perhaps most importantly, TIME MANAGEMENT. These sessions will be presented by the MPI Academic Coordinator and the Mathematics Coordinator.

Then on Sept. 30, our first "regular" enrichment Wednesday of the year, we hope to have a speaker address the other major question of college admissions: Financial Aid. This talk is being presented this year as a result of student requests from last year.

TO THE PARENTS OF THE 1987-88

CLASS AT THE INSTITUTE

These newsletters are written for your information, and there will be one sent to you every two months during this year while your son or daughter is at the Institute.

We firmly believe that without your support and concern at home students cannot succeed in such a rigorous program as the MPI. Our classes are NOT high school classes -- they are regular college classes, and require both study skills and a committment that students still in high school, however talented, have not experienced before. In both of these areas YOU as parents can be of enormous help.

One of the first facts we have learned to face in the last three years is that many bright students never learn to study efficiently; they have often gotten along very well with a "wait and cram" attitude, giving

(CONTINUED -- following Calendar)

 MPI CALENDAR -- 1987-88

Institute Begins	September 9, 1987
Mid - Quarter 1 Progress Reports Sent	October 9, 1987
1st Quarter Grade Reports Sent	November 6, 1987
MPI OPEN HOUSE for Parents/Teachers/Etc.	November 8, 1987
Thanksgiving Holiday	November 26-27, 1987
Mid - Quarter 2 Progress Reports Sent	December 4, 1987
Institute Christmas Party	December 18, 1987
Christmas Holiday	December 19, 1987 -- January 3, 1988
Institute Classes Resume	January 4, 1988
College Credit WD Deadline (Math C only)	January 14, 1988
Martin Luther King Holiday	January 18, 1988
Final Exam -- Calculus I (Math C only)	January 19, 1988
Deadline for Transfer from Math C to Math A,B,D & Quarter 2/ Semester 1 Grade Reports Sent	January 21, 1988
President's Day Holiday	February 15, 1988
Mid - Quarter 3 Progress Reports Sent	February 26, 1988
Quarter 3 Grade Reports Sent	March 25, 1988
High School Credit WD Deadline (A,B,C,D) & College Credit WD Deadline (A,B,C,D)	March 25, 1988
MPI Spring Break	March 31 - April 5, 1988
Institute Classes Resume	April 6, 1988
Mid - Quarter 4 Progress Reports Sent	April 29, 1988
Final Exams -- Calculus I (A,B,D) Calculus II (Math C only)	May 24, 1988
Final Exam -- Physics (A,B,C,D)	May 25, 1988
Institute Picnic Breakfast (McCoy Park)	May 26, 1988
Institute Awards Presentation (UMKC Truman campus)	May 27, 1988
Last Day of Institute Classes & Quarter 4/Semester 2 Grade Reports Sent	May 27, 1988

textbooks only an occasional cursory look in time for testing, and relying on their innate ability to absorb information and skills in the classroom. However, in coming to the Institute these same students always find themselves at first, and suddenly, falling behind.

In general, in college classes MORE MATERIAL is covered, and MORE SKILL with concepts is expected, i.e., THINKING is expected regularly. This comes as a shock to many talented students. One of the Institute's goals is to expose students to this shock, and help them overcome it, by learning effective study skills in actual practice. But YOU as parents can help this transition enormously, by suggesting that your children actually spend the minimum of one hour per subject, per night of study that we here at the MPI urge. They must come to realize that longer study times reflect the new rigor of the COURSES, not their lack of talent. This is a point of view that many students find hard to accept at first. Your encouragement can help them over this hump. Encourage them to seek the help of all the teachers involved in the program, as well as the teaching assistants that we hire, and to put aside the false idea that only remedial students need to talk about mathematics and physics. The fact is that true understanding comes only from learning to discuss and explain a subject, and this is ESPECIALLY SO in mathematics and physics.

Finally, we urge you to call us if you ever have a question, and hope that you will find time to visit the Institute during our annual OPEN HOUSE on Sunday afternoon, Nov. 8, 1987. (More about this in the next newsletter.)

SOME PARENT COMMENTS FROM 1986-87

We very much appreciate the following thoughts from one parent:

" We just wanted to let you know how very much we think of MPI and the personnel thereof. It has been a tremendous opportunity for (our son) to be able to attend your classes and progress in his education. He spent many hours in his studies; however, he really enjoyed the classes and holds everyone there in the very highest respect... thanks for helping to make (his) senior year a memorable one. I'm certain he will be visiting you this coming year."

MATHEMATICS CHALLENGE #1

(To test those thinking skills!)

The sum of a certain number of consecutive positive integers is 1000. Find ALL SUCH SETS of consecutive positive integers.

(The answer and a discussion will be printed in the Oct. 1 newsletter. Send in a solution if you like!)

MISCELLANY

* Institute brochures are always available upon request from the MPI (276-1272) or from your local high school counselors.

* Video tapes of some previous Institute enrichment speakers are also available.

* Upcoming Articles:

Continuing profiles of our high school teachers.

Quotes from our current students about their MPI experience.

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The MPI Newsletter is published on the first of the month during the months of August, October, December, February, and April at The Mathematics and Physics Institute, 600 W. Mechanic, Independence, Mo. 64050, phone (816) 276-1272. Please address all correspondence concerning this newsletter to 'Newsletter'.
