MONDAY, SEPTEMBER 1
All campus holiday - offices closed

TUESDAY, SEPTEMBER 2

Algebraic Number Theory 241 AH 2:00 pm
Professor A. Fröhlich, Robinson College, Cambridge; Multiplicative Galois module structure.

Differential Geometry 243 AH 3:00 pm
Professor M. Gromov, IHES, Symplectic geometry.

Geometry-Special Lecture 243 AH 4:00 pm
Professor G. D’Ambra, University of Cagliari; Inducing connections in principal bundles.

Intersection Theory 247 AH 3:00 pm
Organizational meeting.

Number Theory 247 AH 1:00 pm
Professor Harold Diamond, A survey of the sieve functions ω.

Special Seminar 108 AH 2:00 pm
Mr. William Jockusch, Demonstration of MetaWindow, a graphics package for Turbo Pascal.

WEDNESDAY, SEPTEMBER 3

Differential Geometry 347 AH 3:00 pm
Professor M. Gromov, IHES; Symplectic geometry.
MATHEMATICAL TIMETABLE

September 8-12, 1986

MONDAY, SEPTEMBER 8

TUESDAY, SEPTEMBER 9

Departmental Faculty Meeting 314 AH 4:00 pm
Professor H. Halberstam, presiding
Coffee & Tea 321 AH 3:15 pm

Algebraic Number Theory 241 AH 2:00 pm
Organizational meeting.

Commutative Algebra 247 AH 3:00 pm
Professor Dan Grayson; Intersection Theory, I

Functional Analysis - Special Lecture 245 AH 1:00 pm
Dr. N. J. Nielsen; The positive approximation property in Banach lattices.

Geometric Potpourri 243 AH 2:00 pm
Professor Ralph Alexander; Purely organizational.

Group Theory 245 AH 3:00 pm
Organizational meeting.

Max Newman 247 AH 11:00 am
Professor Wolfgang Haken; Organizational meeting.

Number Theory 247 AH 1:00 pm
Professor P. T. Bateman; For what $n$ can the sum of $n$ consecutive squares be a square?

WEDNESDAY, SEPTEMBER 10

Foliation Theory-Special Lecture 441 AH 4:00 pm
Professor Lawrence Conlon, Washington University; Foliations and sublifits.
THURSDAY, SEPTEMBER 11

Mathematics Colloquium  314 AH  4:00 pm
Professor Lawrence Conlon, Washington University; Every surface is a leaf.
Coffee & Tea  321 AH  3:15 pm

ABSTRACT: The problem to be discussed is that of realizing a given, open, connected surface $L$ as a leaf of a foliation of a given, closed 3-manifold $M$, the foliation is to be smooth and transversely orientable. The result is that there is no topological obstruction except for the obvious one: if $L$ is nonorientable, $M$ must also be nonorientable. The construction actually produces a leaf with constant Gauss curvature $-1$, relative to a suitable metric on $M$.

Analysis-Special Seminar  243 AH  1:00 pm
Professor Alano Ancona, University of Paris, Orsay; Martin boundary and negative curvature, I

Commutative Algebra  247 AH  3:00 pm
Professor Robert Fossum; To be announced.

Functional Analysis  245 AH  2:00 pm
Professor H.P. Lotz, Weak* convergence in the dual of weak $L^p$, II

Graph Theory Bull Session  241 AH  3:00 pm
Professor Joseph Rotman; Spectra of adjacency matrices. (Note time change in attempt to reduce conflicts.)

Logic  241 AH  1:00 pm
Organizational Meeting. We will set a meeting time (probably 1 or 2 on Tuesdays) and explore possible topics for future talks. Please leave a note in Carl Jockusch's box if you are interested in the seminar but cannot attend the meeting.

Optimization  245 AH  1:00 pm
To be announced.

Number Theory  247 AH  1:00 pm
Professor H.-E. Richeret, University of Ulm; On the sigma function.

FRIDAY, SEPTEMBER 12
MATHEMATICAL TIMETABLE

MONDAY, SEPTEMBER 15

TUESDAY, SEPTEMBER 16

Mathematics Colloquium 314 AH 4:00 pm
Professor N. Th. Varopoulos, University of Paris; Analysis, geometry, and potential theory on discrete and Lie groups. Coffee & Tea 321 AH 3:15 pm

Algebraic Number Theory 241 AH 2:00 pm
Professor Leon McCulloh, Character tables and Stickelberger modules for non-abelian group rings.

Analysis-Special Seminar 245 AH 1:00 pm
Professor Alano Ancona, University of Paris, Orsay; Martin boundary and negative curvature, II

Commutative Algebra 247 AH 3:00 pm
Professor Dan Grayson; Intersection Theory, II

Geometric Potpourri 243 AH 2:00 pm
Professor Richard Bishop; A 10-point conic associated with a pentagon.

Group Theory 245 AH 3:00 pm
Organizational meeting, continued.

Logic 245 AH 2:00 pm
Professor Paul Schupp; Alternating automata, weak monadic theories and temporal logic, I

Max Newman 247 AH 11:00 am
Professor Wolfgang Haken; Interesting examples of 3-manifolds, I

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, Organizational meeting for tutorial in using MS-DOS.

Number Theory 247 AH 1:00 pm
Professor H.-E. Richert, On the sigma function, II

Probability & Statistics 241 AH 11:00 am
Professor Jana Jureckova; Second order asymptotic distribution of M-estimators.
WEDNESDAY, SEPTEMBER 17

**Modula Z 108 AH**
11:00 am
Mr. Ken Jenks; Organization meeting for a seminar on this new language.

**Special Year in Modern Analysis 245 AH**
4:00 pm
Professor Jonathan Arazy, University of Haifa; Hankel operators on weighted Berman spaces, I

THURSDAY, SEPTEMBER 18

**Mathematics Colloquium 314 AH**
4:00 pm
An announcement will be made early in the week about this week's colloquium.

**Coffee & Tea 321 AH**
3:15 pm

**Commutative Algebra 247 AH**
3:00 pm
Professor Robert Fossum; To be announced.

**Functional Analysis 245 AH**
2:00 pm
See Special Year announcement for today.

**Graph Theory Bull Session 241 AH**
3:00 pm
Professor Joseph Rotman; Spectra of adjacency matrices, II

**Number Theory 247 AH**
1:00 pm
Professor H. Halberstam, On sequences containing long arithmetic progressions.

**Special Year in Modern Analysis 156 ADMIN**
2:00 pm
Professor N. Th. Varopoulos, University of Paris; Analysis, geometry, and potential theory on discrete and Lie groups.

FRIDAY, SEPTEMBER 19

**Special Year in Modern Analysis 245 AH**
4:00 pm
Professor Jonathan Arazy, University of Haifa; Hankel operators on weighted Berman spaces, II
# Mathematical Timetable

**September 22-26, 1986**

## Monday, September 22

### Donald B. Gillies Memorial Lecture

**in Computer Science**  141 Loomis  8:00 pm  
Professor Richard Karp, UC-Berkeley; Computers as puzzle-solvers: The challenge of efficient search.

## Tuesday, September 23

### Arthur B. Coble Memorial Lecture

314 AH  5:00 pm  
Professor Charles T. Fefferman, Princeton University; Mathematical problems of quantum mechanics.

**Coffee & Tea**  321 AH  4:15 pm

### Algebraic Number Theory

241 AH  2:00 pm  
Professor Leon McCulloh, Character tables and Stickelberger modules for non-abelian group rings, II

### Commutative Algebra

247 AH  3:00 pm  
Professor Dan Grayson; Intersection Theory, III

### Differential Geometry

243 AH  3:00 pm  
Dr. Franz-Erich Wolter, Berlin; Cut loci in Riemannian manifolds with and without boundary.

### Geometric Potpourri

243 AH  2:00 pm  
Professor Jean Bourgain; Realization of zonotopes with a small number of intervals.

### Gillies Memorial Lecture—II

198 CSL  4:00 pm  
Professor Richard Karp, Three problems at the polynomial-time frontier.

### Group Theory

245 AH  3:00 pm  
Professor Robert Craggs; Ol'shanskii's short solution of the Burnside problem, I

### Logic

245 AH  2:00 pm  
Professor Paul Schupp; Alternating automata, weak monadic theories and temporal logic, II

### Max Newman

247 AH  11:00 am  
Professor Wolfgang Haken; Interesting examples of 3-manifolds, II

### MS-DOS

108 AH  3:00 pm  
Mr. Sam Shyamani, Using MS-DOS, II

### Number Theory

247 AH  1:00 pm  
Professor Kenneth Stolarsky; Number theory, solitons, reaction-diffusion equations & epidemiology.

### Probability & Statistics

241 AH  11:00 am  
No meeting today.
WEDNESDAY, SEPTEMBER 24

Coble Memorial Lecture-II
314 AH
5:00 pm
Professor Charles Fefferman; Mathematical problems of quantum mechanics.

Coffee & Tea
321 AH
4:15 pm

Gillies Memorial Lecture-III
198 CSL
4:00 pm
Professor Richard Karp; Quick-and-dirty algorithms for packing, partitioning and placement.

Modula 2
108 AH
11:00 am
Mr. Ken Jenks; Learning Modula 2, I

THURSDAY, SEPTEMBER 25

Coble Memorial Lecture-III
314 AH
4:00 pm
Professor Charles Fefferman; Mathematical problems of quantum mechanics.

Coffee & Tea
321 AH
3:15 pm

Commutative Algebra
247 AH
3:00 pm
Professor Shankar Dutta; The canonical element conjecture, I

Functional Analysis
245 AH
2:00 pm
Professor Peter Loeb, Finding Radon-Nikodym derivatives for fun & profit.

Graph Theory Bull Session
241 AH
3:00 pm
Professor Joseph Rotman; Spectra of adjacency matrices, III

Group Representations
243 AH
2:00 pm
Professor John Walter, presiding; Organizational meeting.

Number Theory
247 AH
1:00 pm
Dr. Claudia Spiro; Sum-preserving sets of uniqueness for multiplicative functions.

FRIDAY, SEPTEMBER 26
MATHEMATICAL TIMETABLE
September 29–October 3, 1986

MONDAY, SEPTEMBER 29

TUESDAY, SEPTEMBER 30

Algebraic Number Theory 241 AH 2:00 pm
Professor William Haboush; Introduction to finite group schemes over Dedekind domains, I

Analysis 245 AH 1:00 pm
Professor Jean Bourgain, Sets of recurrence.

Commutative Algebra 247 AH 3:00 pm
Professor Dan Grayson; Intersection Theory, IV

Differential Geometry 243 AH 3:00 pm
To be announced.

Geometric Potpourri 243 AH 2:00 pm
Professor Diego Benardete; Ergodicity and topological equivalence of flows on $\text{SL}(3,\mathbb{R})/\text{SL}(3,\mathbb{Z})$.

Group Theory 245 AH 3:00 pm
Professor Robert Craggs; Ol'shanskii's short solution of the Burnside problem, II

Logic 245 AH 2:00 pm
Professor Paul Schupp; Alternating automata, weak monadic theories and temporal logic, III

Max Newman 247 AH 11:00 am
Professor Wolfgang Haken; Interesting examples of 3-manifolds, III

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, Using MS-DOS, III

Number Theory 247 AH 1:00 pm
Dr. Claudia Spiro; Sum-preserving sets of uniqueness for multiplicative functions, II

Probability & Statistics 241 AH 11:00 am
Professor Ditlev Monrad; Uniform dimension results for stable Levy processes.

WEDNESDAY, OCTOBER 1

Modula 2 108 AH 11:00 am
Mr. Ken Jenks; Learning Modula 2, II
ABSTRACT: Let $A$ be an $(n \times n)$-matrix under suitable hypothesis, it is possible to find a subset $\sigma$ of the index set $\{1, \ldots, n\}$, $|\sigma| \sim n$, such that the restriction of $A$ to $\sigma$ is norm increasing with respect to the $\ell^2$ or, more generally, the $\ell^p$-norm. Applications to harmonic analysis and geometry of Banach spaces will be described.

Commutative Algebra
Professor Shankar Dutta; The canonical element conjecture, II

Functional Analysis
Professor Robert Kaufman; The theorem of Ivashev-Musatov on Hausdorff measures and Fourier transforms. Applications to some classes of operators.

Graph Theory Bull Session
Professor Joseph Rotman; Spectra of adjacency matrices, IV

Group Representations
Professor John Walter; Steinberg's tensor product theorem and related topics. I. Enumeration of semisimple classes in finite algebraic groups.

Number Theory
Professor Adolf Hildebrand; The best constant in the Polya-Vinogradov inequality.
MONDAY, OCTOBER 6

Special Year in Modern Analysis 445 AH 4:00 pm
Professor Yves Meyer, University of Paris-Dauphine and G.A. Miller Visiting Professor; Fourier series versus wavelet series.

TUESDAY, OCTOBER 7

Algebraic Number Theory 241 AH 2:00 pm
Professor William Haboush; Introduction to finite group schemes over Dedekind domains, II

Analysis 245 AH 1:00 pm
Professor Jean Bourgain, Non-linear convolutions.

Commutative Algebra 247 AH 3:00 pm
Professor Graham Evans; Intersection Theory, V

Differential Geometry 243 AH 3:00 pm
No meeting this week.

Geometric Potpourri 243 AH 2:00 pm
Professor Diego Benardete; Ergodicity and topological equivalence of flows on SL(3,R)/SL(3,Z), II

Group Theory 245 AH 3:00 pm
Professor Robert Craggs; Ol'shanskii's short solution of the Burnside problem, III

Logic 245 AH 2:00 pm
Professor Paul Schupp; Alternating automata, weak monadic theories and temporal logic, IV

Max Newman 247 AH 11:00 am
Professor Wolfgang Haken; Interesting examples of 3-manifolds, IV

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, Using MS-DOS, IV

Number Theory 247 AH 1:00 pm
Mr. Reid Hunsinger; Abel's theorem on the division of the lemniscate, I

Probability & Statistics 241 AH 11:00 am
Dr. P.J. DeJongh, Inst. for Maritime Technology; Trimmed mean estimators for the parameters of the AR(1) process.

Special Year in Modern Analysis 241 AH 3:00 pm
Professor Guido Weiss, Washington University and G.A. Miller Visiting Professor; Complex methods of interpolation, I
WEDNESDAY, OCTOBER 8

Modula 2  
Mr. Ken Jenks; Learning Modula 2, III  
108 AH  
11:00 am

Special Year in Modern Analysis  
Professor Yves Meyer; How to construct wavelets.  
445 AH  
4:00 pm

THURSDAY, OCTOBER 9

Mathematics Colloquium  
Professor W.A.J. Luxemburg, CalTech; On the completeness of a special system of periodic functions.  
314 AH  
4:00 pm

Coffee & Tea  
321 AH  
3:15 pm

ABSTRACT: In the theory of plane wave scattering by a periodic surface one meets a system of what are called fundamental waves determined by the periodic surface. It is the completeness of such systems that will be discussed in the talk. The trigonometrical system is a special case occurring in the case that we deal with scattering by linear or straight surface.

Commutative Algebra  
Professor Shankar Dutta; To be announced.  
247 AH  
3:00 pm

Functional Analysis  
See Special Year announcements.  
245 AH  
2:00 pm

Graph Theory Bull Session  
Mr. Tom Kratzke; Total interval number of a graph.  
241 AH  
3:00 pm

Group Representations  
Professor John Walter; Steinberg's tensor product theorem and related topics.  
I. Enumeration of semisimple classes in finite algebraic groups, II  
243 AH  
2:00 pm

Number Theory  
Mr. Reid Hunsinger; Abel's theorem on the division of the lemniscate, II  
247 AH  
1:00 pm

FRIDAY, OCTOBER 10
MONDAY, OCTOBER 20

TUESDAY, OCTOBER 21

Stewart S. Cairns Memorial Lecture 314 AH 4:00 pm
Professor Mary Ellen Rudin, University of Wisconsin; The interplay between old fashioned topology and set theory - or how to build really strange manifolds.

Coffee & Tea 321 AH 3:15 pm

Algebraic Number Theory 241 AH 2:00 pm
To be announced.

Commutative Algebra 247 AH 3:00 pm
Professor Graham Evans; Intersection Theory, VII

Differential Geometry 243 AH 3:00 pm
Professor Samuel Goldberg; On closed surfaces immersed in $E^3$ with constant mean curvature.

Geometric Potpourri 243 AH 2:00 pm
Professor Bruce Reznick; The Summer 1986 Conference on Discrete & Computational Geometry at Santa Cruz.

Group Theory 245 AH 3:00 pm
Professor Robert Craggs; Ol'shanskii's short solution of the Burnside problem, V

Logic 245 AH 2:00 pm
Professor Paul Schupp; Alternating automata, weak monadic theories and temporal logic, VI

Max Newman 247 AH 11:00 am
Professor Wolfgang Haken; Interesting examples of 3-manifolds, VI

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, Using MS-DOS, VI

Number Theory 247 AH 1:00 pm
Mr. Jerry Keiper; Quadratic convergent algorithms for computing $w$.

Probability & Statistics 241 AH 11:00 am
Professor Ching Zong Wei, University of Maryland; Inference for non-stationary autoregressive processes.

Special Year in Modern Analysis 245 AH 1:00 pm
Professor Yves Meyer; Wavelets, V
WEDNESDAY, OCTOBER 22

Stewart S. Cairns Memorial Lecture 314 AH 4:00 pm
Professor Mary Ellen Rudin; The interplay between old fashioned topology and set theory - or now to build really strange manifolds.

Coffee & Tea 321 AH 4:15 pm

THURSDAY, OCTOBER 23

Stewart S. Cairns Memorial Lecture 314 AH 5:00 pm
Professor Mary Ellen Rudin; The interplay between old fashioned topology and set theory - or now to build really strange manifolds.

Coffee & Tea 321 AH 3:15 pm

Commutative Algebra 247 AH 3:00 pm
Professor C. Rotthaus, Michigan State University; Topic to be announced.

Functional Analysis 245 AH 2:00 pm
See Special Year announcements.

Graph Theory Bull Session 241 AH 3:00 pm
Mr. Tom Kratzke; Total interval number of a graph, III

Group Representations 243 AH 2:00 pm
Professor John Walter; Steinberg's tensor product theorem and related topics.
I. Enumeration of semisimple classes in finite algebraic groups, III

Modula 2 108 AH Noon
Mr. Ken Jenks; Learning Modula 2, V

Number Theory 247 AH 1:00 pm
Program of five minute talks. Those wishing to give a five-minute talk should leave a note in P.T. Bateman's mailbox.

Optimization 245 AH 1:00 pm
Professor Leszek S. Zaremba, visiting E.I.U. from Poland; Optimal control problems and Bellman's equation.

Special Year in Modern Analysis 245 AH 2:00 pm
Professor Yves Meyer; Wavelets, VI

FRIDAY, OCTOBER 24

Commutative Algebra 245 AH 4:00 pm
Professor G. Ljubeznik, University of Chicago; Topic to be announced.
MATHEMATICAL TIMETABLE

University of Illinois at Urbana-Champaign
Department of Mathematics
273 Altgeld Hall
1409 West Green Street
Urbana, IL 61801
217 333-3350

MATHEMATICAL TIMETABLE

October 27-31, 1986

MONDAY, OCTOBER 27

TUESDAY, OCTOBER 28

Algebraic Number Theory 241 AH 2:00 pm
Professor William Haboush, Finite group schemes & generalized tameness, III

Commutative Algebra 247 AH 3:00 pm
Professor William Haboush; Intersection Theory, VIII

Differential Geometry 243 AH 3:00 pm
Geometry/Topology meeting to schedule courses for coming semesters.

Geometric Potpourri 243 AH 2:00 pm
To be announced.

Group Theory 245 AH 3:00 pm
Professor Robert Craggs; Ol'shanskii's short solution of the Burnside problem, VI

Group Theory-Special 241 AH 1:00 pm
Mr. Russell Blyth; Rewriting products of group elements, I

Logic 245 AH 2:00 pm
Mr. Reuben Gurevic; More applications of complex variable theory to Tarski's high school algebra problem, I

Max Newman 247 AH 11:00 am
Professor Wolfgang Haken; Interesting examples of 3-manifolds, VII

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, Using MS-DOS, VII

Number Theory 247 AH 1:00 pm
Discussion of graduate courses in number theory for Fall, 1987.

Probability & Statistics 241 AH 11:00 am
Professor Tailen Hsing, UT-Arlington visiting UIUC; On the extreme order statistics for a weakly dependent stationary sequence.
WEDNESDAY, OCTOBER 29

Tarski Seminar -- On Exponentiation 155 AH 3:30 pm
This will be a working seminar which will consider various questions about the
real exponential function, most of which are of a model theoretic character.
This subject originated in the work of Tarski and he explicitly posed many of the
questions we will discuss. While the main problems treated in this seminar come
from logic, for the most part, the methods used to answer them come from various
other parts of mathematics, including complex analysis (Nevanlinna theory),
differential equations, asymptotic expansions, etc. At the beginning we plan to
concentrate on the finiteness theorems of Hovanskii, which concern sets defined
by systems of inequalities between Pfaffian functions.

THURSDAY, OCTOBER 30

Mathematics Colloquium 314 AH 4:00 pm
Watch the mailroom bulletin board for any colloquium notes and/or announcements.

Commutative Algebra 247 AH 3:00 pm
To be announced.

Functional Analysis 245 AH 2:00 pm
Dr. Oscar Blasco; Boundary values for vector-valued harmonic functions.

Graph Theory Bull Session 241 AH 3:00 pm
Mr. Andre Kezdy; Cutsets in partial orders.

Group Representations 243 AH 2:00 pm
Professor John Walter; Steinberg's tensor product theorem and related topics.
I. Enumeration of semisimple classes in finite algebraic groups, IV

Modula 2 108 AH Noon
Mr. Ken Jenks; Learning Modula 2, VI

Number Theory 247 AH 1:00 pm
Mr. Adebisi Agboola; Riho Terras' theorem on a stopping time problem on the
integer.

FRIDAY, OCTOBER 31
MATHEMATICAL TIMETABLE
November 3-7, 1986

MONDAY, NOVEMBER 3

Foliation Theory 347 AH 4:00 pm
Professor Steven Hurder, UIC; Ergodic theory and characteristic classes of foliations.

TUESDAY, NOVEMBER 4

Algebraic Number Theory 241 AH 2:00 pm
Professor William Haboush, Finite group schemes & generalized tameness, IV

Commutative Algebra 247 AH 3:00 pm
Professor William Haboush; Intersection Theory, IX

Differential Geometry 243 AH 3:00 pm
Professor Steven Hurder, UIC; Index theorems and regulators in algebraic K-theory

Geometric Potpourri 243 AH 2:00 pm
Professor Bruce Reznick, The Summer 1986 conference on Discrete & Computational Geometry at Santa Cruz, III

Group Theory 245 AH 3:00 pm
Professor Robert Craggs; Ol'shanskii's short solution of the Burnside problem, VII

Group Theory-Special 241 AH 1:00 pm
Mr. Russell Blyth; Rewriting products of group elements, II

Logic 245 AH 2:00 pm
Mr. Reuben Gurevic; More applications of complex variable theory to Tarski's high school algebra problem, II

Max Newman 247 AH 11:00 am
Professor Richard Jerrard; Classifying functions by fixed point properties

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, Using MS-DOS, VIII

Number Theory 247 AH 1:00 pm
Professor J. Bourgain; Integer sum sets containing long arithmetic progressions.

Probability & Statistics 241 AH 11:00 am
To be announced.
WEDNESDAY, NOVEMBER 5

Tarski Seminar — On Exponentiation 155 AH
Mr. Reuben Gurevic; On work of Hovanskii, I

THURSDAY, NOVEMBER 6

Mathematics Colloquium 314 AH
Professor Henri Gillet, UIC; Continued fractions and groups acting on generalized trees.

Coffee & Tea 321 AH
3:15 pm - 4:00 pm

ABSTRACT: It is known that a group acting freely on a tree is free. Peter Shalen and I study free actions on Λ-trees, where Λ is an ordered group. These Λ-trees arise when using leaf spaces of foliations to describe degeneration of Riemann surfaces. We show that if Λ has rank 2 then a group acting freely on a Λ-tree is a free product of free groups and surface groups, and that the free actions of surface groups arise from measured foliations of Riemann surfaces.

Commutative Algebra 247 AH
3:00 pm

Functional Analysis 245 AH
2:00 pm
See Special Year Announcement.

Graph Theory Bull Session 241 AH
3:00 pm
To be announced.

Group Representations 243 AH
2:00 pm
Professor John Walter; Steinberg's tensor product theorem and related topics.

I. Enumeration of semisimple classes in finite algebraic groups, V

Modula 2 108 AH
Noon
Mr. Ken Jenks; Learning Modula 2, VII

Number Theory 247 AH
1:00 pm
Professor N. Ankeny, MIT; Theorems of reciprocity.

Special Year in Modern Analysis 245 AH
2:00 pm
Professor Christopher Sogge, University of Chicago; Restriction theorems and partial differential equations.

FRIDAY, NOVEMBER 7
## MONDAY, NOVEMBER 17

<table>
<thead>
<tr>
<th>Course</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Special Year in Geometry</strong></td>
<td>441 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Mark Gotay, U.S. Naval Academy; Some interesting 4-dimensional symplectic manifolds.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## TUESDAY, NOVEMBER 18

<table>
<thead>
<tr>
<th>Course</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Algebraic Number Theory</strong></td>
<td>241 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor William Haboush, Finite group schemes &amp; generalized tameness, VI</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commutative Algebra</strong></td>
<td>247 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor William Haboush; Intersection Theory, XI</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Differential Geometry</strong></td>
<td>243 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Mark Gotay; Geometric quantization.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Functional Analysis</strong></td>
<td>245 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Dr. Oscar Blasco, Duality in $H^p$ of vector valued functions, II</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Geometric Potpourri</strong></td>
<td>243 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>To be announced.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group Theory</strong></td>
<td>245 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Robert Craggs; Ol'shanskii's solution of the Burnside problem, IX</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group Theory-Special</strong></td>
<td>241 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Mr. Russell Blyth; Rewriting products of group elements, IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Logic</strong></td>
<td>245 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Lou van den Dries; New results on the real numbers, II</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Max Newman</strong></td>
<td>247 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Professor Robert Craggs; Free reduction for 2-complexes in 4-manifolds, II</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MS-DOS</strong></td>
<td>108 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Mr. Sam Shyamani, Using MS-DOS, X</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number Theory</strong></td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor Harold Diamond; A survey of Beurling generalized prime number theory, I</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Probability &amp; Statistics</strong></td>
<td>241 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Mr. Kwok-Pui Choi; Some sharp inequalities for Martingale transforms.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
THURSDAY, NOVEMBER 20

Mathematics Colloquium 314 AH 4:00 pm
Professor Peter Winkler, Emory University; Three applications and a theorem:
Computer science and the metric structure of graphs.

Coffee & Tea 321 AH 3:15 pm

ABSTRACT: Combinatorics has been enjoying a boom in recent years, owing in
part to its usefulness in attacking the problems of computer science. In some
cases an entire area of study was inspired by computer theory, and most
gratifyingly, led to new theoretical results and new applications as well.
The metric structure of graphs is only one small corner of combinatorics but
has a surprising variety of connections with computer science. We give an
example of a theorem with applications to complexity theory, computer network
design, and data structures. The theorem (joint work with R.L. Graham) concerns
canonical representations of graphs as isometric subgraphs of products of
graphs.

Commutative Algebra 247 AH 3:00 pm
Professor Mark Levine, Northeastern, MSRI; Intersection theory and algebraic
K-theory

Functional Analysis 245 AH 2:00 pm
Mr. Minos Petrakis; Nearly representable operators, I

Graph Theory Bull Session 241 AH 3:00 pm
Cancelled in favor of today's colloquium.

Group Representations 243 AH 2:00 pm
Professor William Haboush; Steinberg's tensor product theorem, VII
Modula 2 108 AH Noon
Mr. Ken Jenks; Learning Modula 2, IX

Number Theory 247 AH 1:00 pm
Professor Harold Diamond; A survey of Beurling generalized prime number
theory, II
MATHMATICAL TIMETABLE

November 24-26, 1986

ANNOUNCEMENTS FOR THE WEEK OF DECEMBER
1-5 ARE DUE IN PAT'S OFFICE BY 5:00 PM ON MONDAY, NOVEMBER 24. THANK YOU.

MONDAY, NOVEMBER 24

TUESDAY, NOVEMBER 25

Mathematics Colloquium
314 AH
4:00 pm
Professor Youcef Saad, UIUC; Iterative methods in large scale scientific problems.

Coffee & Tea
321 AH
3:15 pm

ABSTRACT: This talk will present an overview of numerical methods used in scientific computing with an emphasis on the impact of modern supercomputers on the design of new solution methods. A few typical problems arising in applications areas such as reservoir simulation, semi-conductor simulation, and structural engineering, will be briefly described together with some of the common approaches taken to solve them. The original equations are most often discretized and the resulting problem in linearized and solved by an iterative method such as the preconditioned conjugate gradient method for solving linear systems or the Lanczos algorithm for solving eigenvalue problems. We will point out the main weaknesses of these methods when implemented in a supercomputing environment and show some of the alternative approaches employed to regain efficiency.

Algebraic Number Theory
241 AH
2:00 pm
Professor William Haboush; Finite group schemes & generalized tameness, VII

Commutative Algebra
247 AH
3:00 pm
Professor William Haboush; Intersection Theory, XII

Differential Geometry
243 AH
3:00 pm
To be announced.

Functional Analysis
245 AH
1:00 pm
Mr. Minor Petrakis; Nearly representable operators, II

Geometric Potpourri
243 AH
2:00 pm
To be announced.
TUESDAY - CONTINUED

Group Theory 245 AH 3:00 pm
No meeting this week.

Logic 245 AH 2:00 pm
Professor Lou van den Dries; New results on the real numbers, III

Max Newman 247 AH 11:00 am
Professor Robert Craggs; Free reduction for 2-complexes in 4-manifolds, III

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, Using MS-DOS, XI

Number Theory 247 AH 1:00 pm
Mr. Reid Huntsinger; A proof of the law of quartic reciprocity using the lemniscate integral, I

Probability & Statistics 241 AH 11:00 am
Professor Itsvan Berkes; Almost symmetric sequences of random variables and permutation invariance in the law of large numbers.

WEDNESDAY, NOVEMBER 26

Tarski Seminar — On Exponentiation 155 AH 3:30 pm
Professor Ward Henson; On Risler's exposition of Hovanskii, II

THURSDAY, NOVEMBER 27

THANKSGIVING VACATION
All University holiday - office closed

FRIDAY, NOVEMBER 28

THANKSGIVING VACATION
All University holiday - office closed
MONDAY, DECEMBER 1

TUESDAY, DECEMBER 2

**Algebraic Number Theory**
241 AH
2:00 pm
Professor William Haboush, Finite group schemes & generalized tameness, VIII

**Commutative Algebra**
247 AH
3:00 pm
Professor William Haboush; Intersection Theory, XIII

**Differential Geometry**
243 AH
3:00 pm
To be announced.

**Special Year in Analysis**
245 AH
1:00 pm
Dr. Liu Jiajiang Shen, Sun Yat-sen University, Peoples' Republic of China,
A localized version of Choquet's Theorem.

**Geometric Potpourri**
243 AH
2:00 pm
Professor George Francis, The Etruscan Venus, II

**Group Theory**
245 AH
3:00 pm
To be announced.

**Logic**
245 AH
2:00 pm
Professor Lou van den Dries; New results on the real numbers, IV

**Max Newman**
247 AH
11:00 am
Professor Robert Craggs; Free reduction for 2-complexes in 4-manifolds, IV

**MS-DOS**
108 AH
3:00 pm
Mr. Sam Shyamani, Using MS-DOS, XII

**Number Theory**
247 AH
1:00 pm
Mr. Reid Huntsinger; A proof of the law of quartic reciprocity using the
lemniscate integral, II

**Probability & Statistics**
241 AH
11:00 am
Professor Luc Devroye, McGill University; Nonparametric density estimation.

**Ph.D. Final, Oral**
449 AH
3:00
Mr. Minos Petrakis, Nearly representable operators.
WEDNESDAY, DECEMBER 3

Tarski Seminar — On Exponentiation

Professor Ward Henson; On Risler’s exposition of Hovanskii, II

THURSDAY, DECEMBER 4

Mathematics Colloquium

Professor Peter Borwein, University of Toronto; Ramanujan’s modular equations and approximations to $\pi$.

Coffee & Tea

ABSTRACT: Watch the mailroom blackboard for forthcoming abstract.

Commutative Algebra

To be announced.

Differentiation Seminar

Mr. Russ Gordon; Saks—Theory of the Integral adapted to Banach spaces, I (Thesis Preview)

Functional Analysis

Professor N. T. Peck, Banach sublattices of weak $L_1$

Graph Theory Bull Session

To be announced.

Group Representations

Professor William Haboush; Steinberg’s tensor product theorem, VIII

Modula 2

Mr. Ken Jenks; Learning Modula 2, X

Number Theory

Professor Peter Borwein, University of Toronto; Complexity and irrationality.

FRIDAY, DECEMBER 5

Differentiation Seminar

Mr. Russ Gordon; Saks — Theory of the Integral adapted to Banach spaces, II (Thesis Preview)

Special Year in Geometry

Professor Kevin Grasse, University of Oklahoma; Sufficient conditions for the transitivity of systems of vector fields.
MONDAY, DECEMBER 8

Ph.D. Final Oral 449 AH 4:00 pm
Mr. C. Allen Butler; T.D. Morley, Director of Thesis Research

Special Year in Geometry 347 AH 4:00 pm
Professor Stephen S.-T. Yau, UIC; Topological Euler number of Chow varieties.

TUESDAY, DECEMBER 9

Algebraic Number Theory 241 AH 2:00 pm
Professor William Haboush, Finite group schemes & generalized tameness, IX

Commutative Algebra 247 AH 3:00 pm
Professor William Haboush; Intersection Theory, XIV

Differential Geometry 243 AH 3:00 pm
Professor Stephen S.-T. Yau; Diffeomorphic types of CR-manifolds.

Functional Analysis 245 AH 1:00 pm
Professor N.T. Peck; Banach sublattices of weak $L_1$, II

Geometric Potpourri 243 AH 2:00 pm
See Optimization listing for today.

Group Theory 245 AH 3:00 pm
To be announced.

Logic 245 AH 2:00 pm
Professor Lou van den Dries; Logic and the Weierstrass preparation theorem, II

Max Newman 247 AH 11:00 am
Professor Robert Craggs; Free reduction for 2-complexes in 4-manifolds, V

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, Using MS-DOS, XIII

Number Theory 247 AH 1:00 pm
To be announced.

Optimization 243 AH 2:00 pm
Professor T.D. Morley, Georgia Tech; Topic to be announced.

Probability & Statistics 241 AH 11:00 am
Professor Andrew Barron; Uniformally powerful tests.
**Mathematical Timetable**

**WEDNESDAY, DECEMBER 10**

*Pi Mu Epsilon*  
314 AH  
Professor Jerry Uhl; Max-mix without calculus.  
Coffee & Tea 321 AH  
4:00 pm

*Tarski Seminar -- On Exponentiation*  
155 AH  
Professor Ward Henson; On Risler's exposition of Hovanskii, III  
3:30 pm

**THURSDAY, DECEMBER 11**

*Mathematics Colloquium*  
314 AH  
Professor Janos Pintz, Hungarian Academy of Science visiting Rutgers; Title to be announced.  
Coffee & Tea 321 AH  
3:15 pm

**Commutative Algebra**  
247 AH  
To be announced.  
3:00 pm

**Functional Analysis**  
245 AH  
Mr. Lew Lefton; Existence and uniqueness of solutions of non-linear boundary value problems at resonance, I  
2:00 pm

**Graph Theory Bull Session**  
241 AH  
More open problems (Come one, Come All!)  
3:00 pm

**Group Representations**  
243 AH  
Professor William Haboush; Steinberg's tensor product theorem, IX  
2:00 pm

**Modula 2**  
108 AH  
Mr. Ken Jenks; Learning Modula 2, XI  
Noon

**Morley Theory**  
149 ADMIN  
Professor Tom Morley; Strange attractors.  
10:00 am

**Number Theory**  
247 AH  
To be announced.  
1:00 pm

**FRIDAY, DECEMBER 12**
MATHMATICAL TIMETABLE

MONDAY, JANUARY 26

TUESDAY, JANUARY 27

THERE WILL BE A COFFEE FOR ALL VISITORS TODAY AT 3:00 IN THE COMMONS ROOM

Analysis
Professor Robert Fefferman, University of Chicago; Multiparameter Fourier Analysis, I
Mr. Christopher Bishop*, University of Chicago; A construction of continuous functions holomorphic off a curve.

Logic
Dr. Shih-Ping Tung, Chung-yuan Christian University, Taiwan; Topic to be announced.
Mr. Michael Laskowski*, UC-Berkeley; Theories that are categorical in a higher power.

Max Neuman
Professor Robert Craggs; Free reduction for 2-complexes in 4 manifolds, VI

Number Theory
Professor Bruce Berndt; Introduction to modular forms with applications to modular equations, I

WEDNESDAY, JANUARY 28
THURSDAY, JANUARY 29

Mathematics Colloquium 314 AH 4:00 pm
Professor NigelKalton, University of Missouri, Columbia; Nonlinear commutators and the Hilbert transform.

Coffee & Tea 321 AH 3:15 pm
ABSTRACT: Recently, Jawerth, Rochberg and Weiss have shown that certain nonlinear maps "commute" with interpolated operators. We will discuss a very general result of this nature. In the context of the Hilbert transform, we show that our result is closely related to a theorem of Davis on rearrangements of Hardy spaces.

We will also discuss similar theorems for the Schatten ideals and how they yield the solution of a problem of Pearcy, Topping and Gary Weiss on the linear span of the commutators of Hilbert-Schmidt operators.

Analysis 245 AH 1:00 pm
Professor Robert Fefferman, University of Chicago; Multiparameter Fourier Analysis, II

Classical Analysis 245 AH 2:00 pm
Dr. Gabriella Tarantello, Institute for Advanced Study; On subharmonic solutions for Hamiltonian systems.

Graph Theory Bull Session 241 AH 2:00 pm
Open problem session, preceded by vote on 2 pm Thursday vs. 3 pm Thursday for meetings. Send proxy votes to D. West.

Number Theory 247 AH 1:00 pm
To be announced

FRIDAY, JANUARY 30
MATHMATICAL TIMETABLE
FEBRUARY 9-13, 1987

MONDAY, FEBRUARY 9

Analysis 241 AH 5:00 pm
Mr. Paul Newton, Stanford University; Stability and bifurcation of periodic plane waves

Basics of Ahlfors Theory 343 AH 3:00 pm
Mr. Rueben Gurevic; On Chapter 5 of Hayman's "Meromorphic functions", I

C-Tutorial 108 AH 11:00 am
Mr. Ken Jenks; Presiding, I

TUESDAY, FEBRUARY 10

Applied Mathematics 243 AH 10:00 am
Professor William Perry, Texas A & M University; Uniform radial displacement at the boundary of a compressible elastic ball, I

Differential Geometry 245 AH 3:00 pm
Dr. Jayakumar Ramanathan, University of Michigan; Rigidity of minimal surfaces in the 3-sphere

Geometric Potpourri 245 AH 2:00 pm
Professor Ralph Alexander, Zonoids & generalized zonoids, I

Logic 243 AH 2:00 pm
Professor Gaisi Takeuti; Bounded arithmetic and weak probability, I

Max Newman 247 AH 11:00 am
Professor Robert Craggs; Free reduction for 2-complexes in 4-manifolds, VIII

Number Theory 247 AH 1:00 pm
Professor Bruce Berndt; Introduction to modular forms with applications to modular equations, II

Probability & Statistics 241 AH 11:00 am
To be announced

Reflection Group 243 AH 4:00 pm
Professor John Walter; Characterization of buildings, II

Special Year in Modern Analysis 245 AH 1:00 pm
Professor J.-P. Kahane, University of Paris-Orsay; Random multipliers, multiplicative chaos, and Gaussian processes, I
WEDNESDAY, FEBRUARY 11

C-Tutorial 108 AH 11:00 am
Mr. Ken Jenks, presiding, II

Tarski Seminar 159 AH 4:00 pm
Professor Lou van den Dries; Model Theory of (R,+,·,exp). We will start from scratch. The lectures will continue for several weeks, II

THURSDAY, FEBRUARY 12

Mathematics Colloquium 314 AH 4:00 pm
No colloquium scheduled this week.

Graph Theory Bull Session 241 AH 2:00 pm
To be announced.

Group Theory 243 AH 2:00 pm
Professor M. Suzuki; Elementary proof of the simplicity of sporadic groups, II.

Max Neumann Special 241 AH 3:00 pm
Professor Daryl Cooper***University of Minnesota; Geometry of the Cantor set

MS-Dos 108 AH 3:00 pm
Mr. Sam Shyamani, presiding, I

Number Theory 247 AH 1:00 pm
Professor Harold Diamond; Estimate of the relative size of odd and even power sums. (This is an elementary solution of a monthly problem)

Special Year in Modern Analysis 245 AH 1:00 pm
Professor J.-P. Kahane; Random multiplications, multiplicative chaos and Gaussian processes, II

Using Computers 108 AH 11:00 am
Professors D. Muller & L. Dornhoff; Computer gradebooks, computing averages and ranking students the easy way.

FRIDAY, FEBRUARY 13
MONDAY, FEBRUARY 16

Analysis
Basics of Ahlfors Theory
Mr. Rueben Gurevic; On Chapter 5 of Hayman's "Meromorphic functions", II
C-Tutorial
Mr. Ken Jenks; Presiding, III

TUESDAY, FEBRUARY 17

Algebraic Number Theory
Organizational Meeting.

Applied Mathematics
Professor William Perry, Texas A & M University; Uniform radial displacement at the boundary of a compressible elastic ball, II

Differential Geometry
No Meeting.

Geometric Potpourri
Professor Ralph Alexander, Zonoids & generalized zonoids, II

Logic
Professor Gaisi Takeuti; Bounded arithmetic and weak provability, II

Max Newman
Professor Robert Craggs; On the Andrews-Curtis conjecture and 3-manifold presentations, I

Number Theory
Professor Bruce Berndt; Introduction to modular forms with applications to modular equations, III

Probability & Statistics
To be announced

Reflection Group
Professor John Walter; Characterization of buildings, III

Special Year in Modern Analysis
Professor J.-P. Kahane, University of Paris-Orsay; Random multipliers, multiplicative chaos, and Gaussian processes, III
WEDNESDAY, FEBRUARY 18

C-Tutorial
Mr. Ken Jenks, presiding, IV

Tarski Seminar
Professor Lou van den Dries; Model Theory of \((\mathbb{R},+^*,\exp)\). We will start from scratch. The lectures will continue for several weeks, III.

THURSDAY, FEBRUARY 19

Applied Mathematics
Frank C. Hoppensteadt, Mathematics Department, Michigan State; Stability under persistent disturbances and signal acquisition in noisy system.

Mathematics Colloquium
Jean-Pierre Kahane, University of Paris-Orsay; Why did Theodorus stop at \(\sqrt{17}\).

Abstract: A comment on Plato, Theetetes, 147d. Socrates discusses science with a very young, bright, and ugly mathematician, Theetetes. "What do you study?", asks Socrates. "My teacher, Theodorus, showed me on figures why the squares with ratios 3,5,... have incommensurable lengths,... until 17, and, for some reason, he stopped there." Why did Theodorus stop? And what did Theetetes do? I give my personal answers.

Graph Theory & Combinatorics
Andre Kezdy; Recursive Combinatorics.

Group Theory
Dr. Yoav Segev, Cal Tech; Topics in group Geometries.

Using Computers
Professor Larry Dornhoff; Graphing functions with our 6-pen color plotters.
MATHMATICAL TIMETABLE

MONDAY, FEBRUARY 23

Basics of Ahlfors Theory 343 AH 3:00 pm
Mr. Reuben Gurevic; On Chapter 5 of Hayman's "Meromorphic functions", III

C-Tutorial 108 AH 11:00 am
Mr. Ken Jenks; Presiding, V

TUESDAY, FEBRUARY 24

Algebraic Number Theory 241 AH 2:00 pm
Professor William Haboush; Galois theory of group schemes, I

Applied Mathematics 243 AH 10:00 am
Professor William Perry, Texas A & M University; Uniform radial displacement at the boundary of a compressible elastic ball, III

Differential Geometry 245 AH 3:00 pm
To be announced.

Geometric Potpourri 245 AH 2:00 pm
Professor Paul Bateman; If a tetrahedron contains a parallelopiped, what is the minimum ratio of the volume of the tetrahedron to the volume of the parallelopiped?

Logic 243 AH 2:00 pm
No meeting this week.

Max Neuman 247 AH 11:00 am
Professor Robert Craggs; On the Andrews-Curtis conjecture and 3-manifold presentations, II

Number Theory 247 AH 1:00 pm
Dr. Y.F.S. Petermann, University of Geneva; An application of one dimensional exponent-pairs to a divisor problem.

Probability & Statistics 241 AH 11:00 am
To be announced

Reflection Group 243 AH 4:00 pm
Professor John Walter; Characterization of buildings, IV

Representation Theory 243 AH 3:00 pm
Professor William Haboush; Steinberg tensor product theorem.

Special Year in Modern Analysis 245 AH 1:00 pm
Professor J.-P. Kahane, University of Paris-Orsay; Random multipliers, multiplicative chaos, and Gaussian processes, V

Professor Robert Fefferman, Multiparameter Fourier analysis, V
WEDNESDAY, FEBRUARY 25

C-Tutorial
Mr. Ken Jenks, presiding. VI
108 AH 11:00 am

Differential Equation
Mr. David Pollock, Illinois Wesleyan; The geometry of singularly perturbed boundary value problems, I
198 CSL 4:00 pm

Tarski Seminar
Professor Lou van den Dries; Model Theory of \((\mathbb{R},+,,\cdot,\exp)\). We will start from scratch, IV
159 AH 4:00 pm

THURSDAY, FEBRUARY 26

Mathematics Colloquium
Professor Robert Fefferman, University of Chicago; Some recent progress in Euclidean harmonic analysis.
314 AH 4:00 pm

Coffee & Tea
321 AH 3:15 pm

Abstract: This will be an attempt at a non-technical exposition of two areas of recent progress in the theory of singular integral; non-translations invariant operators and multi-parameter operators.

Forth
Professor George Francis; Introduction to FORTH: overview and demonstration of a versatile programming tool.
102 AH 3:00 pm

Graph Theory & Combinatorics
Andre Kezdy; Recursive Combinatorics, II
241 AH 2:00 pm

Group Theory
Professor Michio Suzuki; Solvable generation of finite groups.
243 AH 2:00 pm

MS-Dos
Mr. Sam Shyamani, presiding, II
108 AH 3:00 pm

Number Theory
Professor Bruce Berndt; Introduction to modular forms with applications to modular equations, III
247 AH 1:00 pm

Special Year in Modern Analysis
See today's colloquium.
245 AH 1:00 pm

Using Computers
Professor Kenneth Appel; Introduction to \(T^3\) technical word processing.
108 AH 11:00 am

FRIDAY, FEBRUARY 27
<table>
<thead>
<tr>
<th>Day</th>
<th>Course</th>
<th>Room</th>
<th>Time</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MONDAY, MARCH 2</strong></td>
<td>Basics of Ahlfors Theory</td>
<td>343 AH</td>
<td>3:00 pm</td>
<td>Mr. Reuben Gurevic; On Chapter 5 of Hayman's &quot;Meromorphic functions&quot;, IV</td>
</tr>
<tr>
<td></td>
<td>C-Tutorial</td>
<td>108 AH</td>
<td>11:00 am</td>
<td>Mr. Ken Jenks; Presiding, VII</td>
</tr>
<tr>
<td><strong>TUESDAY, MARCH 3</strong></td>
<td>Algebraic Number Theory</td>
<td>241 AH</td>
<td>2:00 pm</td>
<td>Professor William Haboush; Galois theory of group schemes, II</td>
</tr>
<tr>
<td></td>
<td>Applied Mathematics</td>
<td>243 AH</td>
<td>10:00 am</td>
<td>Professor William Perry, Texas A &amp; M University; Uniform radial displacement at the boundary of a compressible elastic ball, IV</td>
</tr>
<tr>
<td></td>
<td>Differential Geometry</td>
<td>245 AH</td>
<td>3:00 pm</td>
<td>Professor Robert Bryant, Rice University; Recent progress on Willmore surfaces.</td>
</tr>
<tr>
<td></td>
<td>Geometric Potpourri</td>
<td>245 AH</td>
<td>2:00 pm</td>
<td>No meeting this week.</td>
</tr>
<tr>
<td></td>
<td>Logic</td>
<td>243 AH</td>
<td>2:00 pm</td>
<td>Professor Carl Jockusch; Turing degrees of functions with no fixed points.</td>
</tr>
<tr>
<td></td>
<td>Max Neuman</td>
<td>247 AH</td>
<td>11:00 am</td>
<td>No meetings until after Spring break.</td>
</tr>
<tr>
<td></td>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
<td>Dr. Y.F.S. Petermann, University of Geneva; An application of one dimensional exponent-pairs to a divisor problem, II (This talk is essentially independent of I.)</td>
</tr>
<tr>
<td></td>
<td>Probability &amp; Statistics</td>
<td>241 AH</td>
<td>11:00 am</td>
<td>Professor Evarist Giné, Texas A &amp; M University; Some limit theorems for empirical processes.</td>
</tr>
<tr>
<td></td>
<td>Reflection Group</td>
<td>243 AH</td>
<td>4:00 pm</td>
<td>Professor John Walter; Characterization of buildings, V</td>
</tr>
<tr>
<td></td>
<td>Representation Theory</td>
<td>243 AH</td>
<td>3:00 pm</td>
<td>Professor William Haboush; Steinberg tensor product theorem, II</td>
</tr>
<tr>
<td></td>
<td>Special Year in Modern Analysis</td>
<td>245 AH</td>
<td>1:00 pm</td>
<td>No meeting today.</td>
</tr>
</tbody>
</table>
WEDNESDAY, MARCH 4

C-Tutorial 108 AH 11:00 am
Mr. Ken Jenks, presiding, VIII

Differential Equation 343 AH 4:00 pm
Mr. David Pollack, Illinois Wesleyan; The geometry of singularly perturbed boundary value problems, II

Special Year in Geometry 341 AH 4:00 pm
Professor Robert Bryant, Rice University; Metrics with exceptional homology.

Tarski Seminar 159 AH 4:00 pm
Professor Lou van den Dries; Model Theory of \((\mathbb{R},+,*;\exp)\). We will start from scratch, V

THURSDAY, MARCH 5

Mathematics Colloquium 314 AH 4:00 pm
Professor Aleksander Pelczynski, Institute of Mathematics, Polish Academy of Sciences; Vector valued analogues of some classical inequalities, and their unexpected "career".

Coffee & Tea 321 AH 3:15 pm
Abstract: See the mailroom bulletin board for this abstract.

Algebra-Special 314 AH 10:00 am
Professor Phillip Kutzko, University of Iowa; The local Langlands conjecture for \(\text{GL}_N\) -- a progress report.

Coffee & Tea 321 AH 9:30 am
ABSTRACT: See mailroom bulletin board for this abstract.

Forth 102 AH 3:00 pm
Professor George Francis; Introduction to FORTH: overview and demonstration of a versatile programming tool, II

Graph Theory & Combinatorics 241 AH 2:00 pm
Ms. Margaret Weaver; Generalized chromatic number of graphs, I

Group Theory 243 AH 2:00 pm
Professor Michio Suzuki; Solvable generation of finite groups, II

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, presiding, III

Number Theory 247 AH 1:00 pm
Professor Bruce Berndt; Introduction to modular forms with applications to modular equations, V

Special Year in Modern Analysis 245 AH 1:00 pm
See today's colloquium.

Using Computers 108 AH 11:00 am
Professor Kenneth Appel; Introduction to \(T^3\) technical word processing, II

FRIDAY, MARCH 6
<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Course</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARCH 9</td>
<td>343 AH</td>
<td>Basics of Ahlfors Theory</td>
<td>Mr. Reuben Curevic: On Chapter 5 of Hayman’s “Meromorphic functions”, V</td>
</tr>
<tr>
<td>11:00 am</td>
<td>108 AH</td>
<td>C-Tutorial</td>
<td>Mr. Ken Jenks; Presiding, IX</td>
</tr>
<tr>
<td>4:00-5:15 pm</td>
<td>141 AH</td>
<td>Special Year in Modern Analysis</td>
<td>Professor Richard Kadison, University of Pennsylvania; Convex combinations of unitary operators and invertible elements in operator algebras, I</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>341 AH</td>
<td>Special Year in Geometry</td>
<td>Professor James Hebda, St. Louis University; Gromov’s norm and Riemannian foliations of negative curvature.</td>
</tr>
<tr>
<td>MARCH 10</td>
<td>241 AH</td>
<td>Algebraic Number Theory</td>
<td>Professor William Haboush; Galois theory of group schemes, III</td>
</tr>
<tr>
<td>10:00 am</td>
<td>243 AH</td>
<td>Applied Mathematics</td>
<td>Professor William Perry, Texas A &amp; M University; Uniform radial displacement at the boundary of a compressible elastic ball, V</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>247 AH</td>
<td>Commutative Algebra</td>
<td>Professor H. Flenner, University of Göttingen; Locally trivial deformations.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>245 AH</td>
<td>Differential Geometry</td>
<td>Professor James Hebda; A generalization of the Cartan-Ambrose-Hicks theorem to Cartanian geometry</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>245 AH</td>
<td>Geometric Potpourri</td>
<td>Professor Peter Yff, American University of Beirut; Concurrent cevians and equiareal triangles.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>243 AH</td>
<td>Logic</td>
<td>Professor Carl Jockusch; Turing degrees of functions with no fixed points, II</td>
</tr>
<tr>
<td>11:00 am</td>
<td>247 AH</td>
<td>Max Newman</td>
<td>Professor Dan Grayson; Discovering certain relations among modular forms of weight 1 and Eisenstein series by computer, I</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>247 AH</td>
<td>Number Theory</td>
<td>Professor Dan Grayson; Discovering certain relations among modular forms of weight 1 and Eisenstein series by computer, I</td>
</tr>
<tr>
<td>11:00 am</td>
<td>Medical Science Aud</td>
<td>Probability &amp; Statistics</td>
<td>Professor John Bailar, Harvard; How conservative is the one-hit model of carcinogenesis. (NOTE ROOM CHANGE)</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>243 AH</td>
<td>Reflection Group</td>
<td>Professor John Walter; Characterization of buildings, VI</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>243 AH</td>
<td>Representation Theory</td>
<td>Professor William Haboush; Steinberg tensor product theorem, III</td>
</tr>
<tr>
<td>9:45 am</td>
<td>245 AH</td>
<td>Special Year in Modern Analysis</td>
<td>Professor Richard Kadison; Convex combinations of unitary operators and invertible elements in operator algebras, II</td>
</tr>
</tbody>
</table>
C-Tutorial
Mr. Ken Jenks, presiding, X

108 AH 11:00 am

Differential Equations
Mr. David Pollock, Illinois Wesleyan; The geometry of singularly perturbed boundary value problems, III

343 AH 4:00 pm

Pi Mu Epsilon
1. Reid Huntsinger; Algebraic integers and reciprocity.
2. Doug Shaw; A brief summary of the proof of the four color conjecture.

321 AH 3:15 pm

Tarski Seminar
Professor Lou van den Dries; Model Theory of (R,+,·,exp). We will start from scratch, VI

159 AH 4:00 pm

Mathematics Colloquium
Professor Samuel R. Buss, Visiting Berkeley; Short proofs of the propositional pigeonhole principle.

314 AH 4:00 pm

Algebraic Geometry
Professor H. Flenner; Infinitesimal Max Noether theorem.

247 AH 3:00 pm

Forth
Professor George Francis; Tutorial. III. You may, however, catch up tutorials I and II by special arrangement. Also, come to this meeting if you plan to use Apples over the Spring break.

102 AH 3:00 pm

Graph Theory & Combinatorics
Ms. Margaret Weaver; Generalized chromatic number of graphs, II

241 AH 2:00 pm

Group Theory
Professor Masahiko Miyamoto, Ehime University; Integral representations and bilinear forms.

243 AH 2:00 pm

MS-Dos
Mr. Sam Shyamani, presiding, III

108 AH 3:00 pm

Number Theory
Professor Dan Grayson; Discovering certain relations among modular forms of weight 1 and Eisenstein series by computer, II

247 AH 1:00 pm

Using Computers
No meeting this week.

108 AH 11:00 am

FRIDAY, MARCH 13
# Mathematical Timetable

**MARCH 30–APRIL 3, 1987**

## Monday, March 30

**Basics of Ahlfors Theory**
- **Time:** 3:00 pm
- **Location:** 343 AH
- **Speaker:** Mr. Reuben Gurevic; On Chapter 5 of Hayman's "Meromorphic functions", VII

**C-Tutorial**
- **Time:** 11:00 am
- **Location:** 108 AH
- **Speaker:** Mr. Ken Jenks; Presiding, XIII

## Tuesday, March 31

**Special Seminar**
- **Time:** 11:00 pm
- **Location:** 447 AH
- **Speaker:** Professor T. Y. Lam, U. C. Berkeley; Is conjugation meaningful in a commutative system?

**Algebraic Number Theory**
- **Time:** 2:00 pm
- **Location:** 241 AH
- **Speaker:** Mr. Steve Benson; Thaine's Stickelberger result for ideal classes of a real abelian field. II.

**Applied Mathematics**
- **Time:** 10:00 am
- **Location:** 243 AH
- **Speaker:** Professor R. G. Muncaster; Minimization in Elasticity Theory for Non-convex Energy Functions. I

**Commutative Algebra**
- **Time:** 3:00 pm
- **Location:** 247 AH
- **Speaker:** To be announced.

**Differential Geometry**
- **Time:** 3:00 pm
- **Location:** 245 AH
- **Speaker:** To be announced.

**Geometric Potpourri**
- **Time:** 2:00 pm
- **Location:** 245 AH
- **Speaker:** Professor George Francis; Winfree’s grassfire and other cellular automata: Lecture & Demonstration.

**Logic**
- **Time:** 2:00 pm
- **Location:** 243 AH
- **Speaker:** Professor Carlos R. Videla; Stellingen #4, Laten Ken L Lichamen van Karakteristiek p > 0 zijn. Dan geldt: \( K \cong L \Rightarrow K^\infty \cong L^\infty \).

**Max Newman**
- **Time:** 11:00 am
- **Location:** 247 AH
- **Speaker:** Professor Wolfgang Haken; Heegaard diagrams in Pascal.

**Number Theory**
- **Time:** 1:00 pm
- **Location:** 247 AH
- **Speaker:** Mr. Jerry Keiper; Constructive estimates of the first sign change of \( \pi(x) - \text{li} x \).

**Probability & Statistics**
- **Time:** 11:00 am
- **Location:** 241 AH
- **Speaker:** Professor P. R. Kumar, Electrical & Computer Engineering, UIUC; Simulated Annealing and Balance of Recurrence Orders in Time Inhomogeneous Markov Chains

**Reflection Group**
- **Time:** 4:00 pm
- **Location:** 243 AH
- **Speaker:** To be arranged
Representation Theory 243 AH
Professor William Haboush; Steinberg tensor product theorem, VI

Special Year in Modern Analysis 345 AH
Professor Patrick Dowling, Ohio State Univ.; The analytic Radon-Nikodym property for real Banach spaces

Professor Per Enflo, Ohio State Univ.; Contractive projections in $L^1$, II

WEDNESDAY, April 1

C-Tutorial 108 AH
Mr. Ken Jenks, presiding, XIV

Tarski Seminar 159 AH
Professor Lou van den Dries; Model Theory of $(\mathbb{R},+,-,\exp)$. VII

Special Year in Modern Analysis 341 AH
Professor Patrick Dowling, Ohio State Univ.; Some operator-theoretic characterizations for the analytic Radon-Nikodym property

Differential Equations 243 AH
Mr. Lew Lefton; Degree Theory and Non-linear Boundary Value Problems at Resonance

THURSDAY, APRIL 2

No Colloquium Scheduled this week

Algebraic Geometry 247 AH
To be announced.

Forth 102 AH
Professor George Francis; Tutorial, V

Graph Theory & Combinatorics 241 AH
Mr. John George; 1-factorizations of graph products, II

Group Theory 243 AH
Professor Everett Dade; Representation theory of normal subgroups, II

MS-Dos 108 AH
Mr. Sam Shyamani, presiding, V

Number Theory 247 AH
Professor Bruce Berndt; Discussion of the Ramanujan conference. Interested graduate students are encouraged to attend.

Using Computers 108 AH
Professor Carlos Mora & Mr. Gary Rozal; The PC-MATLAB program for matrix and surface plotting.

Decision Sciences Seminar 3:00 pm
Professor Charles Blair, Business Admin. Dept., UIUC; Improved analysis of the convergence rate of the karmarkar algorithm (work of C. McDiarmid)
CORRECTION TO THE MATHEMATICAL TIMETABLE

WEDNESDAY, April 1

Special Year in Modern Analysis
Professor Patrick Dowling, Ohio State Univ.; Some operator-theoretic characterizations for the analytic Radon-Nikodym property
MONDAY, APRIL 6

Basics of Ahlfors Theory 343 AH 3:00 pm
Mr. Reuben Gurevic; On Chapter 5 of Hayman's "Meromorphic functions", VIII

C-Tutorial 108 AH 11:00 am
Mr. Ken Jenks; Presiding. XV

Special Year in Modern Analysis 341 AH 4:00 pm
Professor Ken Davidson, University of Waterloo; A survey of nest algebras. I - Triangular forms for compact operators.

TUESDAY, APRIL 7

Ferber Lecture in Statistics 314 AH 4:00 pm
Professor Bradley Efron, Stanford University; Computers, Statistics & Bootstrap
Coffee & Tea 321 AH 3:15 pm

ABSTRACT: Professor Efron will explain the bootstrap, a computer intensive method of assessing the distribution of a complicated statistic, and explore how the computer is changing the way in which statistical theory is developing.

Algebraic Number Theory 241 AH 2:00 pm
Mr. A. Agboola; Some results on units in group rings. I

Applied Mathematics 243 AH 10:00 am
Professor R. G. Muncaster; Minimization in Elasticity Theory for Non-convex Energy Functions, II

Differential Geometry 245 AH 3:00 pm
Professor Hillel Gauchman, Pinching theorems for minimal submanifolds of real and complex space forms.

Geometric Potpourri 245 AH 2:00 pm
No meeting this week.

Logic 243 AH 2:00 pm
No meeting this week.

Max Neumann 247 AH 11:00 am
Professor Wolfgang Haken: Heegaard diagrams in Pascal.

Number Theory 247 AH 1:00 pm
Mr. Jerry Keiper; Constructive estimates of the first sign change of \( \tau(x) - \pi(x) \), II

Probability & Statistics 241 AH 11:00 am
See Ferber lecture today.

Representation Theory 243 AH 3:00 pm
Professor William Haboush; Steinberg tensor product theorem. VII

Special Year in Modern Analysis 245 AH 11:00 am
Professor Ken Davidson; A survey of nest algebras. II - Spatial structure of nest algebras.

Professor Per Enflo; Norms of products of polynomials.
WEDNESDAY, APRIL 8

C-Tutorial 108 AH 11:00 am
Mr. Ken Jenks, presiding, XVI

Tarski Seminar 159 AH 4:00 pm
Professor Lou van den Dries; Model Theory of \((\mathbb{R},+,*),\exp\), VIII

THURSDAY, APRIL 9

Mathematics Colloquium 314 AH 4:00 pm
Professor Steven Krantz, Washington University; Boundary behavior of holomorphic functions of one and several variables.

Coffee and Tea 321 AH 3:15 pm

Algebraic D-Modules 247 AH 2:00 pm
Organizational meeting.

Differential Geometry 159 AH 1:00 pm
Mr. Mohan Ramachandran, Informal seminar on Berline-Vergue proof of the index theorem for twisted Dirac operators, II

Forth 102 AH 3:00 pm
Professor George Francis; Tutorial, VI

Graph Theory & Combinatorics 241 AH 2:00 pm
Professor Doug West; Billiard balls and width (solution to a monthly problem.)

Group Theory 243 AH 2:00 pm
Professor Everett Dade; Representation theory of normal subgroups, III

MS-Dos 108 AH 3:00 pm
Mr. Sam Shyamani, presiding, VI

Number Theory 247 AH 1:00 pm
Professor Ken Stolarsky; The search for the simplest infinitely summable series.

Special Year in Modern Analysis 245 AH 1:00 pm
Professor Ken Davidson; A survey of nest algebras, III - Algebraic structure of nest algebras.

Using Computers 108 AH 2:00 pm
Mr. Ken Jenks; Telecommunications; sending methods and data from one computer to another. (NOTE CHANGE OF TIME FOR THIS WEEK ONLY)

FRIDAY, APRIL 10
MONDAY, APRIL 13

**Basics of Ahlfors Theory**
343 AH 3:00 pm
Mr. Reuben Gurevic; On Chapter 5 of Hayman's "Meromorphic functions", VI

**C-Tutorial**
108 AH 11:00 am
Mr. Ken Jenks; Presiding, XVII

TUESDAY, APRIL 14

**Algebraic Number Theory**
241 AH 2:00 pm
Mr. A. Agboola; Some results on units in group rings, II

**Applied Mathematics**
243 AH 10:00 am
Professor R. G. Muncaster; Minimization in Elasticity Theory for Non-convex Energy Functions, III

**Differential Geometry**
245 AH 3:00 pm
To be announced.

**Geometric Potpourri**
245 AH 2:00 pm
To be announced.

**Logic**
243 AH 2:00 pm
Dr. Carlos Videla; On the model theory of the ring NT(n,R).

**Max Newman**
247 AH 11:00 am
Professor Wolfgang Haken; Heegaard diagrams in Pascal.

**Number Theory**
247 AH 1:00 pm
Ms. Caroline Sing; Estimation of \#\{n < x : n = a^2 + b^2 \} for some a,b.

**Probability & Statistics**
241 AH 11:00 am
Mr. Michael Lacey; Laws of the iterated logarithm for partial sum processes indexed by families of sets.

**Representation Theory**
243 AH 3:00 pm
Professor William Haboush; Steinberg tensor product theorem, VIII

**Special Year in Modern Analysis**
245 AH 11:00 am
Professor Laszlo Zsicho, University of Cincinnati; An attempt to define the Hilbert transform for locally compact abelian groups.
WEDNESDAY, APRIL 15

C-Tutorial
Mr. Ken Jenks, presiding, XVIII

Tarshiki Seminar
Professor Lou van den Dries; Model Theory of \((\mathbb{R},+,-,\exp)\), IX

THURSDAY, APRIL 16

Mathematics Colloquium
Professor Brian Smyth, University of Notre Dame; Efimov's theorem in higher dimensions.

Coffee and Tea
ABSTRACT: It is a classical theorem of Hilbert that the hyperbolic plane cannot be isometrically immersed in \(\mathbb{R}^3\). Efimov's famous generalization of this result in 1963 states that there is no complete surface in \(\mathbb{R}^3\) with negative Gauss curvature bounded away from zero. We give the generalization of Efimov's theorem to higher dimensions.

Algebraic D-Modules
To be announced

Differential Geometry
Mr. Mohan Ramachandran, Informal seminar on Berline-Vergne proof of the index theorem for twisted Dirac operators, III

Forth
Professor George Francis; Tutorial, VII

Graph Theory & Combinatorics
Mr. Tom Kratzke; Total interval number of planar graphs.

Group Theory
Professor Everett Dade; Representation theory of normal subgroups, IV

MS-Dos
Mr. Sam Shyamani, presiding, VII

Number Theory
Professor P.T. Bateman; Triangular numbers which are products of the two other triangular numbers.

Special Year in Modern Analysis
Professor Nicole Tomczak-Jaegermann, University of Alberta; Entropies of convex bodies in \(\mathbb{R}^n\).

Professor Charles Moore, Washington University; The corona theorem in Denjoy-type domains.

Using Computers
Professor Larry Dornhoff; How I'm using computers in my (large) Math 345 class.

FRIDAY, APRIL 17
<table>
<thead>
<tr>
<th>Event</th>
<th>Room</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basics of Ahlfors Theory</td>
<td>343 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Mr. Reuben Gurevic; On Chapter 5 of Hayman's &quot;Meromorphic functions&quot;. VII</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-Tutorial</td>
<td>108 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Mr. Ken Jenks; Presiding, XIX</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algebraic Number Theory</td>
<td>241 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Martin Taylor, UMIST, Manchester; Rings of integers and Mordell-Weil groups.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied Mathematics</td>
<td>243 AH</td>
<td>10:00 am</td>
</tr>
<tr>
<td>Professor R. G. Muncaster; Minimization in Elasticity Theory for Non-convex Energy Functions, III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential Geometry</td>
<td>245 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>To be announced.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geometric Potpourri</td>
<td>245 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>To be announced.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logic</td>
<td>243 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Dr. Carlos Videla, Rings elementarily equivalent to NT(n,R).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Neuman</td>
<td>247 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Professor Wolfgang Haken; Heegaard diagrams in Pascal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor A. Hildebrand; Large values of character sums.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probability &amp; Statistics</td>
<td>241 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Professor Bruce Hajek; Locating the maximum of a simple random sequence by sequential search.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Representation Theory</td>
<td>243 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor William Haboush; Steinberg tensor product theorem, IX</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Awards Ceremony</td>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor H. Halberstam, presiding; Presentation of TA teaching awards, Brahama Prize Award, Selma Wanna Award and Math Contest Prize winners. There will be a reception immediately following in room 321 AH.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-Tutorial</td>
<td>108 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Mr. Ken Jenks, presiding, XX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarski Seminar</td>
<td>159 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Lou van den Dries; Model Theory of ((\mathbb{R},+,\cdot,\exp))</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mathematics Colloquium 314 AH 4:00 pm
Professor Robert Rumley, University of Georgia visiting UC-Berkeley; Capacity theory and the local-global principle.
Coffee and Tea 321 AH 3:15 pm
ABSTRACT: Capacity is a measure of size for sets arising in potential theory. Recently there has been an adelic formulation of capacity on algebraic curves. A generalization of classical results of Fekete and Szego has led to a very general local-global principle for algebraic integer points on curves. Out of this has come a positive solution to Hilbert's Tenth Problem over the ring of all algebraic integers.

Algebraic D-Modules 247 AH 2:00 pm
Professor R. Rao; Meromorphic connections in dimension 1, II

Analysis-Special Seminar 245 AH 11:00 am
Professor Jang-mei Wu; Hausdorff dimension of harmonic measures (Carleton, Jones and Wolfe).

Differential Geometry 159 AH 1:00 pm
Mr. Mohan Ramachandran, Informal seminar on Berline-Vergne proof of the index theorem for twisted Dirac operators, IV

Forth 102 AH 3:00 pm
Professor George Francis; Tutorial, VIII

Graph Theory & Combinatorics 241 AH 2:00 pm
Mr. Tom Kratzke; Total interval number of planar graphs. II

Group Theory 243 AH 2:00 pm
Mr. Randall Holmes; Modular representations of Chevalley groups, I

MS-DOS 108 AH 3:00 pm
Mr. Sam Shyamani, presiding, VII

Number Theory 247 AH 1:00 pm
Professor Y. Motohashi, Nihon University visiting University of Colorado; On the Riemann-Siegel formula.

Number Theory-Special 243 AH 11:00 am
Professor Robert Rumley; Construction of Arakelov Green's functions at nonarchimedean primes.

Using Computers 108 AH 11:00 am
Professor Bob Wengert, Philosophy Dept; PROLOG as a practical programming language.
ABSTRACT: An informal discussion of our use of PROLOG in our EXCEL project. After a bit about the theoretical structure of PROLOG-it is really just first-order logic in Horn clause form-we will go through some small procedures to see what PROLOG code looks like and how it works in practice. If there is sufficient time we will look at our EXCEL project code, which is a rather larger program in PROLOG.

FRIDAY, APRIL 24

Analysis-Special Seminar 341 AH 4:00 pm
Professor Donald Lutz, UW-Milwaukee; Connection problems and Floquet solutions of meromorphic differential equations.

Special Year in Modern Analysis 343 AH 4:00 pm
Professor Joe Diestel, Kent State University; To be announced.
MATHEMATICAL TIMETABLE

MONDAY, APRIL 27

C-Tutorial
Mr. Ken Jenks; Presiding. XXI
108 AH 11:00 am

Special Year in Modern Analysis
Professor Joe Diestel, Kent State; The Eberlein-Smolian Theorm. 147 AH 3:00 pm

TUESDAY, APRIL 28

Algebraic Number Theory
Professor M. Miyamoto; Galois module structure with trace form. 241 AH 2:00 pm

Applied Mathematics
Professor R. G. Muncaster; Minimization in Elasticity Theory for Non-convex Energy Functions, IV 243 AH 10:00 am

Differential Geometry
To be announced. 245 AH 3:00 pm

Geometric Potpourri
Professor Peter Yff, American University of Beirut; On subplane partitions of finite Desarguesian planes. 245 AH 2:00 pm

Logic
Dr. Carlos Videla, Rings elementarily equivalent to NT(n,R),II 243 AH 2:00 pm

Max Newman
Professor Wolfgang Haken; Heegaard diagrams in Pascal. 247 AH 11:00 am

Number Theory
Discussion of graduate courses for Spring 1988. Interested grad students and faculty please attend. Persons who cannot attend the meeting are invited to leave proxies in Professor Berndt's mailbox. 247 AH 1:00 pm

Probability & Statistics
No meeting today. 241 AH 11:00 am

Representation Theory
Professor William Haboush; Steinberg tensor product theorem, X 243 AH 3:00 pm

Special Year in Modern Analysis
Professor Jean Bourgain, On the maximal ergodic theorem. 245 AH 11:00 am

Professor Bill Johnson, Texas A & M; Title to be announced. 245 AH 1:00 pm
**WEDNESDAY, APRIL 29**

**C-Tutorial**
Mr. Ken Jenks, presiding, XXII

**Tarski Seminar**
Professor Lou van den Dries; Model Theory of \((\mathbb{R},+,\cdot, \exp)\), XI

**THURSDAY, APRIL 30**

**Mathematics Colloquium**
Professor Michael Boshernitzan, Rice University; Uniform distribution, averaging methods, and Hardy fields.

**Coffee and Tea**
Professor Jang-mei Wu; Hausdorff dimension of harmonic measures (Carleson, Jones and Wolff), II

**Algebraic D-Modules**
Professor R. Rao; Meromorphic connections in dimension 1, III

**Analysis Seminar**
Professor Jang-mei Wu; Hausdorff dimension of harmonic measures (Carleson, Jones and Wolff), II

**Differential Geometry**
Mr. Mohan Ramachandran, Informal seminar on Berline-Vergne proof of the index theorem for twisted Dirac operators, V

**Forth**
Professor George Francis; Tutorial, IX

**Graph Theory & Combinatorics**
Mr. Arkady Kanevsky, On the number of separating triplets in a graph.

**Group Theory**
Mr. Randall Holmes; Modular representations of Chevalley groups, II

**Number Theory**
Five-minute talks. Audience participation.

**Special Year in Modern Analysis**
Professor Lior Tzafriri, Hebrew University; Title to be announced.

**Using Computers**
Professor Eva Gray; The software package MuMath for symbolic manipulations in algebra and calculus.

**FRIDAY, MAY 1**
MATHMATICAL TIMETABLE

MONDAY, MAY 4

C-Tutorial 108 AH 11:00 am
Mr. Ken Jenks; Presiding, XXIII

TUESDAY, MAY 5

Algebraic Number Theory 241 AH 2:00 pm
Mr. Anupam Srivastav; Swan modules and elliptic functions, I

Applied Mathematics 243 AH 10:00 am
Professor William Perry; Iterative solution of a problem in non-Newtonian fluid mechanics.

Computer Geometry (Math 428) 102 AH 7:00 pm
Professor Julian Palmore, Chaotic complex dynamics and Newton's Method.

Functional Analysis 245 AH 1:00 pm
Mr. Carlos Mora; Linear functionals on some subspace of $L_0$

Geometric Potpourri 245 AH 2:00 pm
Ms. Julie Simon; Neighborly families of polytopes.

Geometry-Topology Meeting 245 AH 3:00 pm
Meeting to discuss course offerings for the 1988 Spring Semester. All interested students and faculty welcome.

Logic 243 AH 2:00 pm
No meeting this week.

Max Newman 247 AH 11:00 am
Professor Wolfgang Haken; Heegaard diagrams in Pascal.

Number Theory 247 AH 1:00 pm
Professor Harold Diamond; A tauberian theorem of Wiener and Pitt.

Probability & Statistics 241 AH 11:00 am
Professor W.H. Wong, University of Chicago; Convergence rates of maximum likelihood and related estimates in general parameter spaces.

Representation Theory 243 AH 3:00 pm
Professor William Haboush; Steinberg tensor product theorem, XI
WEDNESDAY, May 6

C-Tutorial 108 AH 11:00 am
Mr. Ken Jenks, presiding, XXIV

Tarski Seminar 159 AH 4:00 pm
Professor Lou van den Dries; Model Theory of \((\mathbb{R},+,:\exp)\), XII

THURSDAY, May 7

Algebraic D-Modules 247 AH 2:00 pm
Professor William Haboush; Coherence of \(\mathcal{O}\) and \(\mathcal{D}\), IV

Analysis Seminar 245 AH 11:00 am
Professor Jang-mei Wu; Hausdorff dimension of harmonic measures (Carleson, Jones and Wolff), III

Differential Geometry 159 AH 1:00 pm
Mr. Mohan Ramachandran, Informal seminar on Berline-Vergne proof of the index theorem for twisted Dirac operators, VI

Forth 102 AH 3:00 pm
Professor George Francis; Tutorial, X

Graph Theory & Combinatorics 241 AH 2:00 pm
Mr. Arkady Kanevsky. On the number of separating k-sets in a k-connected graph.

Group Theory 243 AH 2:00 pm
Mr. Randall Holmes; Modular representations of Chevalley groups, III

Number Theory 247 AH 1:00 pm
Professor Harold Diamond; Tuaberian theorem, II and 5-minute talks.

Using Computers 108 AH 11:00 am
Mr. Mark Zinzow, Computing Services Organizations; Software and other services available at the campus Microcomputer Resource Center.

FRIDAY, MAY 8

Mathematics Colloquium 314 AH 4:00 pm
Professor Hyman Bass, Columbia; Recent thoughts on the Jacobian conjecture.

Coffee & tea 321 AH 3:15 pm

ABSTRACT: The Jacobian conjecture predicts that a polynomial map \(F : \mathbb{C}^n \to \mathbb{C}^n\) with Jacobian 1 is invertible. Following a brief historical discussion of work on the conjecture I shall describe an approach using certain rings of differential operators.
### Mathematical Timetable

**May 11-15, 1987**

#### Monday, May 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 am</td>
<td>C-Tutorial 108 AH</td>
<td></td>
<td>Mr. Ken Jenks; Presiding, XXV</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Mathematics Education 137 ADMIN</td>
<td></td>
<td>Dr. Alan Bell, Univ. of Nottingham; Problem-oriented curriculum for junior high schools.</td>
</tr>
</tbody>
</table>

#### Tuesday, May 12

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 pm</td>
<td>Algebraic Number Theory 241 AH</td>
<td></td>
<td>Mr. Anupam Srivastav; Swan modules and elliptic functions, II</td>
</tr>
<tr>
<td>10:00 am</td>
<td>Applied Mathematics 243 AH</td>
<td></td>
<td>To be announced.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Geometric Potpourri 245 AH</td>
<td></td>
<td>To be announced.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Logic</td>
<td></td>
<td>To be announced.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>Max Neumann 247 AH</td>
<td></td>
<td>Professor Wolfgang Haken; Heegaard diagrams in Pascal.</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>Number Theory 247 AH</td>
<td></td>
<td>Mr. Ferrell Wheeler; Difference-differential equations in number theory.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>Probability &amp; Statistics 241 AH</td>
<td></td>
<td>Professor Joseph Watkins, USC; Donsker's theorem for Lie Groups.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Representation Theory 243 AH</td>
<td></td>
<td>Professor William Haboush; Steinberg tensor product theorem, XII</td>
</tr>
</tbody>
</table>

#### Wednesday, May 13

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 am</td>
<td>C-Tutorial 108 AH</td>
<td></td>
<td>Mr. Ken Jenks, presiding, XXVI</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>Tarski Seminar 159 AH</td>
<td></td>
<td>Professor Lou van den Dries; Model Theory of ((\mathbb{R},+,-,\exp)), XIII</td>
</tr>
</tbody>
</table>
THURSDAY, May 14

Group Theory 243 AH 2:00 pm
Mr. Randall Holmes; Modular representations of Chevalley groups, IV

FRIDAY, MAY 15