949. Advanced Applied Stochastic Processes  
Winter. 4(4-0) MGT 835, 937. Inter- 
departmental with and administered by the  
Management Department.  
Selected topics from the following areas: Semi- 
Markov, Markov-renewal and regenerative proc- 
ess models; Markov and semi-Markov decision 
processes; decision theory, applications from  
production, inventory, reliability, queuing, and 
gaming theory.

971. Advanced Theory of Statistics I  
Fall, 3(3-0) 873, MTH 927, 981 or concurrent- 
ly.  
General decision theory. Concepts of loss, risk, 
admissibility, completeness, minimax and Bayes 
solutions. Sufficiency, equivariance and their  
associated reductions. Moment-like likelihood 
ratios and exponential families. Optimality prop- 
ties of tests.

972. Advanced Theory of Statistics II  
Winter. 3(3-0) 971; 982 or concurrently.  
Statistical convergence theorems. Variables and 
distributions in n-space. Asymptotic and exact 
sampling distributions. Tests of significance.

973. Advanced Theory of Statistics III  
Spring. 3(3-0) 972.  
Continuation of 972.

981. Advanced Theory of Probability I  
Fall. 3(3-0) 883; MTH 927 or approval of 
department.  
Measures on infinite product spaces and Kol- 
mogorov$^*$ consistency theorem. Distributions 
and characteristic functions. Independence. 
Series of independent random variables.

982. Advanced Theory of Probability II  
Winter. 3(3-0) 981 or approval of 
department.  
Central limit problem: the classical limit prob- 
lem, the bounded variance case, and limit laws 
for infinitely divisible random variables. Con- 
tingential probabilities and expectations. Martin- 
gales with discrete time.

983. Advanced Theory of Probability III  
Spring. 3(3-0) 982 or approval of 
department.  
Ergodic theory; individual and $L^p$ ergodic theorems. Second order processes, weakly 
and strongly stationary processes. Foundations, 
separability and measurability of processes, 
properties of sample functions. Continuous 
time martingales. Processes with independent 
increments.

990. Problems in Statistics and Probability  
Fall, Winter, Spring, Summer. 1 to 4 credits. May re-enroll for a maximum of 10 
credits. 873.  
Seminar or individual study on an advanced 
topic in statistics.

995. Topics in Statistics and Probability  
Fall, Winter, Spring. Variable credit.  
Nonparametric statistics, multivariate statistical 
analysis, statistical time series analysis, Bayesian 
statistics, reliability theory, stochastic approxi- 
mation, design of experiments, sets of decision 
problems, stochastic processes, sequential anal- 
ysis, other topics.

999. Research  
Fall, Winter, Spring. Variable credits. 
Approval of department.

STUDIO ART
See Art.

SURGERY*  
College of Human Medicine

608. Surgery Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 43 
credits. H M 602.  
An introduction to the surgical patient, stressing 
surgical diagnosis, pre-operative evaluation and 
post-operative care. Objectives are designed to 
help the student attain acceptable levels of 
surgical competence for physicians.

609. Otolaryngology Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 34 
credits. H M 602.  
Common otolaryngologic disorders, emergencies, 
including diagnosis and treatment, and judg- 
ments concerning proper management by pri- 
mary physicians.

610. Plastic Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 34 
credits. H M 602.  
Principles of wound healing and tissue repair. 
Indications and applications of plastic proce- 
dures.

611. Urology Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 34 
credits. H M 602.  
Demonstration of clinical manifestations of genito-urinary disease, investigative methods 
and techniques of diagnosis and management, 
familiarity with urologic emergencies and per- 
formance of basic urologic skills.

612. Rectal Surgery  
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 34 
credits. H M 602.  
Data collection, physical examination, and prob- 
lem formulation relating to colon and rectal 
disease. Involvement in special techniques, ex- 
aminations, and surgical procedures is an im- 
portant aspect of the experience.

613. Orthopedic Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 34 
credits. H M 602.  
Diagnosis and management information and 
skills, including emergencies, in common ortho- 
pedic problems.

614. Neurosurgery Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 34 
credits. H M 602.  
A hospital-based experience to provide the stu- 
dent with familiarity with the field and under- 
standing of the contribution of neurosurgery in 
medicine generally.

615. Ophthalmology Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 34 
credits. H M 602.  
Development of skills and knowledge in oph- 
thalmoscopy, neuro-ophthalmology, visual func- 
tion, and management of problems such as 
glaucoma, the red eye, and trauma.


SYSTEMS SCIENCE
See Electrical Engineering and Systems Science.

TELECOMMUNICATION* TC
College of Communication Arts and Sciences

120. Telecommunication in the United States  
Fall, Winter, Spring. 3(3-0) Non- 
majors.  
History, economics, public control, programming, 
social effects and future of telecommunication; 
primarily radio and television broadcasting and 
cable communication. Citizen responsibilities 
and the development of telecommunication sys- 
tems and services.

150. Introduction to Telecommunication  
Fall, Spring. 4(4-0) Majors.  
Nature, development, economics, social control 
and influence of the telecommunication media 
in modern society.

201. Fundamentals of Radio Broadcasting  
Fall, Winter, Spring. 4(2-4)  
Basic orientation to the radio studio, with labora- 
tory experiences in production, writing, and 
performance.

202. Fundamentals of Television Broadcasting  
Fall, Winter, Spring. 4(2-4) 201.  
Basic orientation to the television studio, with 
laboratory experiences in production, writing, 
and performance.

280. History of the Motion Picture  
Fall, Winter. 4(2-3) Sophomores.  
Development of the motion picture from its 
beginning to the present, emphasizing social 
background and cultural values. Screening of 
significant films from various periods and coun- 
tries.

*Name change effective July 1, 1975.  
Formerly Department of Television and Radio.  
†Name change effective July 1, 1975.  
Formerly College of Communication Arts.
310. Basic Telecommunication Policy
Winter, Spring. 4(4-0) 150, Juniors, approval of department.
Essential U.S. public communication policy is treated through rigorous methodological analysis of case and statutory law, public documents and related primary materials.

333. Television Directing
Fall, Winter, Spring, Summer. 4(2-4) 202 and approval of department.
Television producing and directing methods with assigned experiences in the television studios.

335. Television and Radio Audience Studies
Winter, Summer. 3(3-0) Juniors.
Analysis and evaluation of broadcast audience measurement services and other feedback systems. Broadcast audience characteristics, attitudes and behavior.

350. Advanced Radio Production
Winter, Spring. 4(2-4) 202 and approval of department.
Planning, coordinating and producing the radio program. Emphasis on documentary and studio productions utilizing original ideas and methods.

351. Television Studio Production
Fall, Spring. 4(2-4) Junior majors, 202 and approval of department.
Advanced television crew operations. Writing and production of programs directed by students in 351.

390. Cinema II
Spring. 4(3-6) 390 and approval of department.
Theory and practice in film production: script, scheduling, shooting, editing, sound. Elaboration and implementation of Cinema I concepts.

396. The Documentary Film
Spring. 4(2-4) 280.
History of documentary film and analysis of documentary types, providing a solid basis for the understanding and evaluation of the non-fiction film. Screening of significant films.

399. WKAR-TV Internship
Fall, Winter, Spring. 2 credits. May re-enroll for a maximum of 4 credits. 202; telecommunication majors only; approval of department.
Internship in television studio operation.

401. Television and Radio Station Management
Fall, Spring. 4(4-0) Seniors and 15 credits in telecommunication courses.
Problems of station management in budgeting, programming, sales, government regulation and community relations.

402. Television and Radio Station Programming
Winter, Spring. 4(4-0) Seniors and 15 credits in telecommunication courses.
Objectives and methods of planning television and radio programs. Evaluation of individual program formats and their relation to various types of audiences and markets. Laws and regulations affecting programming.

415. Cable Communication
Winter. 4(4-0) Juniors.
History, technology, public policy, services, economics, management and social effects of broadband cable communication systems.

437. Television Program Development
Winter, Summer. 3(1-4) Senior non-majors.
Television production planning and practices. Designed for non-majors who desire a working knowledge of the medium for application in other fields.

451. Advanced Television Directing
Fall, Spring. 3(0-6) Senior majors. 333 and approval of department.
Assumed experiences in television directing of programs written and produced by students in 351.

469. Television and Radio in Education
Fall, Summer. 4(4-0) Seniors; Juniors with approval of department.
Uses of broadcast media for instructional purposes, both on-the-air and in the classroom. Current usages by institutions of higher learning and public schools, including both broadcasting and closed-circuit television. Survey of research studies of the effects of educational broadcasting. Types of educational programs are evaluated. Specialists in educational radio and television participate as guest lecturers.

490. International Broadcasting
Fall, Summer. 4(4-0) Seniors; Juniors with approval of department.
Important national and international systems of broadcasting, their history, programming patterns and control.

491. Individual Projects
Fall, Winter, Spring, Summer. Variable credit. Junior Telecommunication majors and approval of department.

501. Trends and Issues in Broadcasting
Spring, Summer. 4(4-0) Approval of department.
Salient issues and prevailing trends in broadcasting. Consideration of inter-dependencies and relationships within and between broadcasting organizations and society.

522. Art Instructional Media Laboratory II—Television
Fall, Winter, Spring, Summer. 4(1-0) May re-enroll for a maximum of 8 credits. Approval of department. Interdepartmental and jointly administered with the Department of Art.
Analysis of teaching video tapes and television programs in art. Utilization of television as a medium of artistic expression and communication for application to art education or related fields.

525. Seminar in Instructional Television
Spring, Summer. 3(3-0) Approval of department. Interdepartmental with and administered by the College of Education.
Television use in instruction, particularly as it concerns the learner, the classroom teacher, the instructional developer and the administration.

530. The Television Producer
Fall, Winter. 4(4-0) 333 or approval of department.
Producer's functions in planning and supervising the execution of television programs, with emphasis on content, organization and use of production techniques to secure the intended audience response.

531. Research Methods in Broadcasting
Fall, Summer. 4(4-0) Approval of department.

540. News and Public Affairs Programming
Winter. 4(4-0) Approval of department.
Analysis of broadcast journalism functions in relation to program design. Writing practice in analytic and editorial forms. Programming responsibilities, legal and ethical restraints.

541. News and Public Affairs Producing
Spring. 4(2-4) Approval of department.
Researching, writing and producing extended news and public affairs reports.

550. Broadcast Management: Sales and Promotion
Winter. 4(4-0) 401 or approval of department.
Direction and supervision of station sales and promotion personnel in securing and servicing national, regional and local accounts.

551. Broadcast Management: Profit and Personnel
Spring. 4(4-0) 401 or approval of department.
The management of station finances and the motivation of station personnel.

580. Public Broadcasting
Winter. 4(4-0) 489 or approval of department.
Investigation of the role, organization, and problems of non-profit broadcasting by television and radio, especially since its recognition by federal legislation as an alternate program service to commercial broadcasting in the United States.

585. Teaching of Broadcasting
Summer. 4(4-0) Approval of department.
Philosophy and objectives of instruction in broadcasting. The undergraduate and graduate curricula. The content of radio and television courses and methods of teaching.

890. Special Problems
Fall, Winter, Spring. Variable credit. Approval of department.

899. Research
Fall, Winter, Spring. Variable credit. Approval of department.

941. Evaluation and Criticism in Broadcasting and Film
Winter. 3(3-0) Approval of department.
Formulation and application of standards for objective appraisal of the social, ethical and artistic aspects of radio, television and film programs.
990. Global Broadcasting: Foreign Domestic Systems (995.) Winter. 4(4-0) 498 or approval of department. Organization, financing, and programming as related to historic and cultural determinants. Special emphasis on the role of broadcasting in developing nations.


THEATRE

College of Arts and Letters

101. Theatre Appreciation: Foundations Fall, Winter, Spring, Summer. 3(3-0). Theatre arts as a recreational, cultural and social force in contemporary life; fundamentals of play production and analysis for critical appreciation.

103. Theatre Foundations: Stagecraft Fall, Winter, Spring, Summer. 3(0-6) Majors. Materials utilized in theatre and necessary fabrication skills. Emphasis on structural qualities, color theory and design fundamentals.

204. Intensive Sophomore Practicum Fall, Winter, Spring, Summer. 12(0-40) Theatre apprenticeship conducted on MSU campus and at Calumet Theatre.

211. Sophomore Acting Practicum I Fall, 4(0-10) 102, 103 or approval of department. Intensive preparation of actor's physical and vocal instrument through exercises and improvisation and some study.

212. Sophomore Acting Practicum II Winter. 4(0-10) 211 or approval of department. Continuation of 211.

213. Sophomore Acting Practicum III Spring. 4(0-10) 211, 212 or approval of department. Continuation of 212.

221. Introduction to Technical Theatre Fall, Winter, Spring, Summer. 4(2-2) Non-majors only. To acquaint the student with fundamental practice of stage appreciation and discipline with an opportunity to practice basic technical theatre skills.

223. Introduction to Acting Fall, Winter, Spring, Summer. 4(0-4) Non-majors only. Training the beginning actor to utilize his experiences to develop himself as an artistic instrument.

300. Rehearsal Fall, Winter, Spring, Summer. 1(0-1) May re-enroll for a maximum of 6 credits. Combined credits in 300A and 300B may not exceed 6. Approval of director. A minimum of 6 hours of rehearsal per week in the public performance program of the University Theatre.

300B. Production Fall, Winter, Spring, Summer. 1(0-1) May re-enroll for a maximum of 6 credits. Combined credits in 300A and 300B may not exceed 6. Approval of technical staff. A minimum of 6 hours of production assignment per week in the public performance program of the University Theatre.

301. Directing and Design Practicum I Fall, Winter. 4(3-3) 304 and approval of department. Practice in directing for the theatre emphasizing the concept of the stage as an expressive medium for movement and graphic design.

302. Directing and Design Practicum II Winter. Spring. 3(0-4) 301 or approval of department. Continuation of 301.

303. Directing and Design Practicum III Fall, Spring. 5(0-12) 302 or approval of department. Continuation of 301 and 302.

304. Basic Production Design Spring. 3(3-0) Approval of department. Studio approach provides basic rendering and design techniques relative to effective costume and scenic design.

323. Intermediate Acting Winter, Spring. 4(0-4) 223. Continuation of 223 with emphasis on vocal interpretation and characterization.

406. Oral Interpretation Winter, Spring. 3(0-4) 223 or 211. Purpose is to train student to take written literature, explore background and interpretation and perform verbally and physically for audience. Poetry, prose and drama.

411. Acting Practicum I Fall. 4(0-10) May re-enroll for a maximum of 8 credits. 213 and approval of department. An intensive acting practicum designed to deal with problems in acting style as well as the extension of the actor's range.

412. Acting Practicum II Winter. 4(0-10) May re-enroll for a maximum of 8 credits. 411 or approval of department. Continuation of 411.

413. Acting Practicum III Spring. 4(0-10) May re-enroll for a maximum of 8 credits. 412 or approval of department. Continuation of 412.

414. Auditioning Fall. 2(1-2) Approval of department. Selection and preparation of audition materials to prepare the student for the audition situation.

415. Stage Dialects Winter. 2(0-3) Basic sounds, rhythms, melodies of several dialects using ear training method. Knowledge of phonetics, foreign languages helpful but not required. Students practice and perform each dialect.

416. Text Study for Actors Spring. 3(3-0) May re-enroll for a maximum of 6 credits. 213. Methodology and practice in dramatic textual analysis for performance. Authors, vision, point of view, historical perspective, images.

421. Creative Dramatics Fall, Winter, Spring, Summer. 4(1-3) To prepare the prospective teacher in the use of creative dramatics as a teaching method. Dramatic play, playmaking, and pantomime.

422. Theatre for Children Fall, Spring. 3(1-3) 421 or approval of department. Methods of bringing the dramatic experience to children.

431. Procedures for Design: Costume and Scenic Fall of even-numbered years. 3(3-0) 303 or approval of department. Instruction in fabrics, patterning, and survey of Western stage design.

432. Theatrical Makeup Fall, Winter. 2(0-4) 204 or 213. Theory and application of makeup for the stage.

433. Advanced Theatrical Makeup Spring. 3(0-4) 432. Continuation of 432.

434. Stage Costume Design (440.) Spring. 4(0-4) 431 or approval of department. Theory of costume design. Costume design problems.

435. Stage Scenery Design (440.) Winter. 4(0-4) 304 or 431 or approval of department. Theory and special problems in stage design.

436. Stage Lighting Design (440.) Fall. 4(0-4) 301 or approval of department. Theory and practice in lighting design and equipment.

Western Theatre History Series

At least one course in the Western theatre history series is offered every term on a sequential basis. The following catalog descriptions indicate when each course will be offered in the next two years.

471. Western Theatre History— 500 B.C. to 1550 (602A) Winter 1977, Spring 1978. 3(3-0) Juniors or approval of department. Detailed examination of theatre architecture, design, audiences and the societal complex which housed the theatre, with emphasis on the classical contribution in theatre art and production.