611. Urology Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. SUR 608.
Demonstration of clinical manifestations of genito-urinary disease, investigative methods and techniques of diagnosis and management, familiarity with urologic emergencies and performance of basic urologic skills.

612. Orthopedic Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. SUR 608.
Diagnostic and management information and skills, including emergencies, in common orthopedic problems.

613. Neurosurgery Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. SUR 608.
A hospital-based experience to provide the student with familiarity with the field and understanding of the contribution of neurosurgery in medicine generally.

615. Ophthalmology Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. SUR 608.
Development of skills and knowledge in ophthalmoscopy, neuro-ophthalmology, visual function, and management of problems such as glaucoma, the red eye, and trauma.

616. Thoracic Surgery Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. SUR 608.
Problem-solving in thoracic medicine and surgery, also stressing pulmonary physiology, use of diagnostic tools and tests, and indications for surgical procedures.

618. Anesthesiology Clerkship
Fall, Winter, Spring, Summer. 4 to 16 credits. May reenroll for a maximum of 16 credits. SUR 608.
Introduces common anesthetic agents and provides opportunities for performing anesthetic procedures under faculty supervision.

619. General Surgery Elective Clerkship
Fall, Winter, Spring, Summer. 4 to 16 credits. May reenroll for a maximum of 16 credits. SUR 608.
Experiences in clinical general surgery.

620. Advanced Surgery Clerkship
Fall, Winter, Spring, Summer. 6 to 8 credits. May reenroll for a maximum of 16 credits. SUR 608, MED 608.
Focus on advanced clinical and surgical skills. Students have more responsibility for patient care and direct learning to specific topics in general or subspecialty surgery. Clerkship options vary by community.

621. Nutritional Care of Surgical Patients
Fall, Winter, Spring, Summer. 4 to 12 credits. SUR 808, MED 608, approval of instructor.
Clinical experience on the Nutrition Team in dealing with surgical and medical patients requiring therapeutic nutrition as a result of metabolic derangements and nutritional deficiencies. Major emphasis on nutritional assessment and formulation of plans of management through intravenous support.

501. Shock and Metabolism
Fall, Winter, Spring. 6(4-4) Master's student in surgery or approval of department.
Results of prolonged reduction in tissue perfusion on tissue metabolism, structure and function at the systemic, cellular and subcellular levels and pharmacologic interventions useful in volume resuscitation.

502. Clinical Surgical Anatomy
Fall, Winter, Spring. 6(4-4) Master's student in surgery or approval of department. Interdepartmental with the Department of Anatomy.
Review of surgical anatomy; the opportunity to obtain detailed anatomical information through lecture and dissection sessions; and the Clinical interpretation of anatomy and surgical approaches.

503. Enteral and Parenteral Nutrition
Winter. 4(2-4) Master's student in surgery, approval of department.
The identification of individuals requiring nutritional support, nutritional requirements in diseases, delivery of total parenteral and enteral nutrition and special problems in nutrition (i.e., anorexia nervosa and obesity).

890. Seminars in Research
Fall, Winter, Spring, Summer. 1 credit. May reenroll for a maximum of 34 credits. Master's student in surgery, approval of department.
Preparation and presentation of research data, philosophy and methods of research, thesis and other research reports, literature review, illustration of research data, practical assignments.

899. Master's Thesis Research
Fall, Winter, Spring, Summer. 1 to 15 credits. May reenroll for a maximum of 15 credits. SUR 801, SUR 802, SUR 803, approval of department.

SYSTEMS SCIENCE
See Electrical Engineering.
200A. Educational Psychology for Teacher Decision Making
Fall, Winter. 3(2-2) Open only to students in Multiple Perspectives emphasis or approval of department.
Principles and theories of learning and development and the ways these ideas may be used to make teaching decisions.

200B. Educational Psychology of Individual Differences in Classrooms
Winter. 3(3-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Educational psychology foundations of the range of diverse capabilities and characteristics found among school children and the implications of these differences for instruction.

200C. Learning of School Subjects
Fall. 3(2-2) Open only to students in Academic Learning emphasis or approval of department.
Theories of knowledge and learning that explain and justify the teaching of school subjects in elementary and secondary schools.

200D. Personal and Social Dimensions of Teaching
Fall. 3(3-0) Open only to students in Learning Community emphasis or approval of department.
Theory and practice of the personal and social dimensions of teaching, including communication skills, interpersonal and group dynamics, and personal educational philosophy.

201B. Instructional Implications of Individual Differences
Spring. 2(2-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Ways that instructional characteristics and teacher behavior interact with students' entering characteristics to influence student learning and behavior in the classroom.

201D. Student Learning and Development
Fall. 3(3-0) Approval of department.
Relevant theory and research relating to human learning and development in school-age children. Emphasis on affective teacher/student factors contributing to classroom learning community.

205C. Curriculum for Academic Learning
Winter. 3(2-2) Open only to students in Academic Learning emphasis or approval of department.
Effects of curriculum on understanding of academic subjects. Political and cultural influences on curriculum. Teachers' use of curriculum.

219A. Classroom Organization and Management of Diverse Pupils
Winter. 2(1-2) Open only to students in Multiple Perspectives emphasis or approval of department.
Knowledge and skills related to effective decision making for classroom management and organization, including behavioral disruptions. Development of teacher leadership behaviors for developing classroom environments conducive to learning.

250B. Social Organization of Diversity in School and Society
Winter. 3(3-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Social and cultural organization of learning and teaching; institutional context; reducing inequities and increasing learning in classrooms diverse in social class, race, ethnicity, and gender of students; observation of classrooms.

260A. Teacher Decision Making Laboratory I
Fall, Winter, Spring. 1(0-2) May reenroll for a maximum of 3 credits. Open only to students in Multiple Perspectives emphasis or approval of department.
Developmental and systematically guided practice in reflective analysis-synthesis of the teaching-learning process. Integrates theory, principles and skills from previous courses into applied field experiences.

270A. Professional Practice: Field Experience
Fall, Winter. 1 to 3 credits. May reenroll for a maximum of 6 credits. Open only to students in Multiple Perspectives emphasis or approval of department.
A field based experience in elementary, middle or high schools taken concurrently with related professional education courses. Focused observations, interviews, practice teaching skills specified by the professional education courses and aide tasks.

270B. Field Practice: Teaching in Heterogeneous Classrooms
Fall, Winter, Spring. 1(0-2) May reenroll for a maximum of 3 credits. Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Field course integrating knowledge and practice of classroom management, planning for instruction, interpretation reasoning into practice, oral and written communication skills for the teacher in the heterogeneous classroom.

305A. Integrated Elementary Methods I: Social Studies, Science, Language Arts, Mathematics
Spring. 2(1-2) Open only to students in Multiple Perspectives emphasis or approval of department.
Methods of teaching elementary, middle and junior high school science in an integrated context with social studies, language arts, and mathematics through the use of unified themes. Participation in microteaching, whole class teaching and or field trip may be required.

305A. Integrated Elementary Methods II: Social Studies, Science, Language Arts, Mathematics
Fall. 2(1-2) Open only to students in Multiple Perspectives emphasis or approval of department.
Specific methods of teaching elementary, middle and junior high school social studies in an integrated context with science, language arts, and mathematics through the use of unified themes.

310. Methods of Teaching Reading in the Elementary School
Fall, Winter, Spring. 3(3-0) Open only to students in Multiple Perspectives emphasis or approval of department.
Methods and materials of instruction of reading at elementary level. Analysis of reading and teaching problems, and study of concrete materials and classroom attack. Consideration of practical bearings of research and progressive theory on current practice.

310A. Teaching Reading in the Primary Grades
Fall. 3(3-0) Open only to students in Multiple Perspectives emphasis or approval of department.
Focuses on the principles of reading instruction, or the language of primary grade children, what to teach in primary grade reading, and the instructional decisions which must be made when teaching reading at this level.

310B. Teaching Reading and Listening
Fall. 3(3-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Interdependence of reading and listening examined. Implications of heterogeneous classrooms for instruction in listening and reading skills. Methodologies of reading and listening instruction surveyed for strengths and weaknesses.

310C. Methods of Teaching Reading and Writing
Spring. 3(3-0) Open only to students in Academic Learning emphasis or approval of department.
Methods of teaching reading and writing in elementary school.

310D. Methods of Developmental Reading
Fall. 3(3-0) Open only to students in Learning Community emphasis or approval of department.
The recognition, algorithm, and application levels of developmental reading are emphasized with secondary emphasis on listening, oral expression, children's literature, writing, higher-level reading, and content area reading.
311A. Teaching Reading in the Upper Elementary Grades
Winter. 3(3-0) Open only to students in Multiple Perspectives emphasis or approval of department.
Focuses on reading comprehension, on language of upper grade children, what to teach in upper grade reading, and the instructional decisions which must be made when teaching reading at this level.

311B. Teaching Reading and the Expressive Skills of Speaking and Writing
Winter. 3(3-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Methods of teaching reading, speaking, and writing skills to groups of children with wide heterogeneous social and cultural backgrounds and individual needs, abilities, attitudes and anxieties of children learning elementary mathematics.

311C. Practicum in Reading/Language Arts
Fall. 3(1-4) Open only to students in Academic Learning emphasis or approval of department.
Application of principles of classroom instruction and management in teaching reading and language arts.

311D. Methods of Critical Reading and Writing
Winter. 3(3-0) Open only to students in Learning Community emphasis or approval of department.
The recognition, algorithm, and application levels of reading and higher-level reading are emphasized with secondary emphasis on children's literature, listening, oral expression, development of reading and content area reading.

312. Practicum in Developmental and Corrective Reading
Fall, Winter, Spring. 3(1-4) T E 310.
Not open to students with credit in T E 312A or T E 312D.
Application of instructional principles introduced in T E 310 in an off-campus setting.

312A. Reading and Writing for the Exceptional Child
Spring. 3(3-0) Open only to students in Multiple Perspectives emphasis or approval of department.
Focus on disabled and gifted readers. Techniques for managing, organizing, and presenting reading instruction in combination with other aspects of the language arts.

312D. Integrating Reading and Language within Subject Matter
Spring. 3(3-0) Open only to students in Learning Community emphasis or approval of department.
Integration of reading and language throughout all subject matter at the application, open-ended, and situation levels.

313A. Critical Reading and Children's Literature
Fall, Winter, Spring, Summer. 3(3-0)
T E 200 or T E 200A or T E 200B or T E 200C or T E 200D. Not open to students with credit in T E 312B or T E 313D.
Development of strategies for helping children to develop critical reading skills through literary experience.

313B. Teaching Critical Reading of Children's Literature
Spring. 3(3-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Methods of teaching print and media literature and critical reading to children, preschool to fourteenth years, with emphasis on children with diverse needs and interests.

313D. Teaching Oral Language and Children's Literature
Fall. 3(3-0) Open only to students in Learning Community emphasis or approval of department.
Literature for children, their responses to it and instructional techniques for developing listening and oral expression abilities and using literature in the elementary and junior high schools.

315. Teaching of Mathematics in Elementary Grades
Fall, Winter, Spring, Summer. 3(3-0)
T E 200 or T E 200A or T E 200B or T E 200C or T E 200D. MTH 201. Not open to students with credit in T E 315A, T E 315B, T E 315C or T E 315D.
Present methods and materials for teaching mathematics in the elementary school. Methods and techniques of presenting mathematics content meaningfully to elementary pupils will be illustrated.

315A. Methods of Teaching Elementary School Mathematics
Winter. 2(1-2) MTH 201. Open only to students in Multiple Perspectives emphasis or approval of department.
Content and methodology of teaching mathematics in elementary grades. Emphasis will be on the content, teaching strategies, and teacher decision making.

315B. Mathematics for Elementary Grades
Fall. 3(3-0) MTH 201. Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Methods of teaching mathematics in elementary grades. Emphasis will be on the diverse interests, needs, abilities, attitudes and anxieties of children learning elementary school mathematics.

315C. Mathematics for Elementary Grades
Winter. 3(3-0) MTH 201. Open only to students in Academic Learning emphasis or approval of department.
Methods of teaching mathematics in grades K-8. Emphasis will be on the content, teaching strategies, and assessment techniques necessary for teaching mathematics in elementary classrooms.

315D. Teaching School Mathematics
Spring. 3(2-2) MTH 201. Open only to students in Learning Community emphasis or approval of department.
Methods and techniques of teaching school mathematics based on a problem solving orientation and the concept of a community context for the learning environment.

316. Teaching of Social Studies in Elementary Grades
Fall, Winter, Spring, Summer. 3(3-0)
T E 200 or T E 200A or T E 200B or T E 200C or T E 200D. Three terms of social science.
Not open to students with credit in T E 316B, T E 316C or T E 316D.
To help students develop understanding of philosophy and aims of social studies movement in elementary schools, and ability to further such aims through familiarity with a variety of materials, knowledge of social studies subject matter, and competence in using a variety of methods.

316A. Social Studies Within a Diverse Classroom
Winter. 3(3-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Teaching of social studies in the diverse classroom. Content and methodology will address gender, mental ability, ethnicity, culture, religion, race, social class, and physical characteristics. Teaching in field setting.

316C. Teaching Social Studies in Elementary Grades
Fall. 3(3-0) Open only to students in Academic Learning emphasis or approval of department.
Methods and materials for teaching social studies in grades K-8. Stress use of social science content and methodology in dealing with socially significant issues and problems.

316D. Social Studies in a Learning Community
Winter. 3(3-0) Approval of department.
Social studies methods and materials with an emphasis on creating and maintaining a learning community and using citizenship as a social studies curriculum organizer.

317. Teaching of Language Arts in Elementary Grades
Fall, Winter, Spring, Summer. 3(3-0)
T E 200 or T E 200A or T E 200B or T E 200C or T E 200D. Not open to students with credit in T E 317C.
Course to acquaint prospective elementary teachers with content material and methods in language arts for grades below the seventh.

317C. Foundations for Reading and Writing: Methods for Teaching Oral Language
Winter. 3(3-0) Open only to students in Academic Learning emphasis or approval of department.
Methods of teaching listening and speaking in the elementary school. Emphasis on the development of oral skills and their relationship to learning to read and write.

318. Teaching Science in the Elementary and Middle School
Fall, Winter, Spring, Summer. 3(2-2)
T E 200 or T E 200A or T E 200B or T E 200C or T E 200D; three terms of natural science.
Not open to students with credit in T E 318B, T E 318C or T E 318D.
Extends the science education background of prospective elementary and middle school teachers. Emphasis is placed upon methods and materials for teaching science at the elementary and middle school levels.
315B. Teaching of Science in the Elementary Grades
Fall, 3(3-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department.
Teaching of science, using strategies designed for promoting equity with diverse student groups. Students will be introduced to issues in science, learning, and curriculum.

318C. Teaching Science in Elementary Grades
Spring, 3(2-2) Open only to students in Academic Learning emphasis or approval of department.
Relate science subject matter and the nature of science to elementary and middle school science teaching. Emphasis is placed on methods and materials appropriate for the various grade levels.

318D. Science Methods for Learning Community
Fall, 3(3-0) Open only to students in Learning Community emphasis or approval of department.
Methods of teaching science in learning community classrooms. Activities include microteaching or selected whole class teaching, modeling of science teaching strategies, discussions and out-of-class assignments. Integration and development of classroom groups are emphasized.

320. School Music Instrumental Methods
Fall, 3(2-1) Instrumental music major; MUS 250. Instrumental instruction program at elementary level.

321. School Music Vocal Methods
Fall, 4(3-2) Approval of the Department of Music; MUS 250. Basic instructional program in primary and intermediate grades.

322. Methods of Teaching—Secondary Common Elements
Fall, Winter, Spring, 2(2-0) T E 200; taken prior to or concurrently with a subject area methods course. Not open to students with credit in T E 200C or T E 305A.
Instructional issues common to all subject areas. Selection of instructional techniques based on teacher values and belief systems, learner needs and characteristics, and sound educational principles and policies.

323. Methods of Teaching—Secondary Subject Areas: Agriculture
Fall, Spring, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 305A or concurrently. Not open to students with credit in T E 330C.
Specifics of classroom instruction in agriculture. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

324. Methods of Teaching—Secondary Subject Areas: Art
Spring, 3 credits, T E 200 or T E 200A; T E 329 or T E 305A or concurrently; STA 301; STA 320.
Specifics of classroom instruction in art. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

326. Methods of Teaching—Secondary Subject Areas: English
Fall, Spring, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently. Not open to students with credit in T E 330C.
Specifics of classroom instruction in English. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

328. Methods of Teaching—Secondary Subject Areas: Romance Languages
Fall, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently.
Specifics of classroom instruction in romance languages. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

329. Methods of Teaching—Secondary Subject Areas: Health
Spring, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently; approval of department.
Specifics of classroom instruction in health. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

330. Methods of Teaching—Secondary Subject Areas: Physical Education
Fall, Spring, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently; approval of department.
Specifics of classroom instruction in physical education. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

331. Methods of Teaching—Secondary Subject Areas: Homemaking
Fall, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently.
Specifics of classroom instruction in homemaking. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

334. Methods of Teaching—Secondary Subject Areas: Mathematics
Spring, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently. Not open to students with credit in T E 334C.
Specifics of classroom instruction in mathematics. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

335. Methods of Teaching—Secondary Subject Areas: Music—Instrumental
Winter, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently; STA 320.
Specifics of classroom instruction in music-instrumental. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

336. Methods of Teaching—Secondary Subject Areas: Music—Voice
Winter, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently; MUS 250.
Specifics of classroom instruction in music-voice. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and sound educational principles and policies.

337. Methods of Teaching—Secondary Subject Areas: Science
Fall, Spring, 3(3-2) T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently. Not open to students with credit in T E 330C.
Specifics of classroom instruction in science. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and educational principles and policies.

338. Methods of Teaching—Secondary Subject Areas: Social Science and History
Fall, Spring, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently. Not open to students with credit in T E 334C.
Specifics of classroom instruction in social sciences and history. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and educational principles and policies.

339. Methods of Teaching—Secondary Subject Areas: Communication
Winter, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently.
Specifics of classroom instruction in communication. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and educational principles and policies.

340. Methods of Teaching—Secondary Subject Areas: German and Russian
Fall of odd-numbered years, 3 credits, T E 200 or T E 200A or T E 200C; T E 322 or T E 205C or T E 305A or concurrently.
Specifics of classroom instruction in German and Russian. Selection of instructional techniques based on recognized course objectives, needs and characteristics of learners, and educational principles and policies.

347A. Introduction to Driver and Traffic Education
Fall, Spring, 4(3-2) Valid driver's license.
Introduction to and an analysis of the driving task. Theory and practical application will be provided.

350D. School and Community
Winter, 3(3-0) Open only to students in Learning Community emphasis or approval of department.
Social foundations of education and schooling with emphasis on study of cultural transmission and group behavior in diverse cultural settings. The role and functions of schools as part of community structure.
Descriptions — Teacher Education

355B. Evaluating Learning Environment
Spring, 2(0-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department. Evaluation of school responses to learning among populations. Dimensions of diversity addressed include culture, ethnicity, race, social class, religion, gender, mental ability, and handicapping conditions. Various learning environments considered.

360A. Teacher Decision Making Laboratory
Fall, Winter, Spring, 1(0-2) May reenroll for a maximum of 3 credits. Open only to students enrolled in Multiple Perspectives emphasis or approval of department. Continuation of developmental and systematically guided practice in reflective analysis-synthesis of the teaching-learning process as a major component in teacher decision making.

370A. Professional Practice: Directed Teaching
Fall, Winter, Spring, 1 to 3 credits. May reenroll for a maximum of 6 credits. Open only to students enrolled in Multiple Perspectives emphasis or approval of department. Provides students with the opportunity to reflect and analyze preceding course content relative to practical application in a field setting.

370D. Directed Teaching in Learning Community
Fall, Winter, Spring, 1 to 4 credits. May reenroll for a maximum of 10 credits. Open only to students in Heterogeneous Classrooms emphasis or approval of department. Field experience and discussion opportunities to plan, instruct and critique in school settings, practice skills through microteaching, communication, and curricular integration. Students document own professional development and prepare for teaching internships.

401. Sociology of Education
Winter, 4(4-0) SOC 241, Interdepartmental with and administered by the Department of Sociology. School as a social institution, school-community relations, social control of education, and structure of school society.

406C. Interdisciplinary Learning
Winter, Spring, 3(1-6) Open only to students in Academic Learning emphasis or approval of department. Field course in which students teach an interdisciplinary course in a public school classroom and investigate the nature and value of interdisciplinary learning in school and society.

409. Supervising High School Publications
Spring, Summer, 3(3-0) Juniors, non-majors. Interdepartmental with and administered by the School of Journalism. Staff organization, finance, law, function, and editorial policies of school newspaper and yearbooks.

412. Reading in the Content Areas of the Secondary Level
Fall, Winter, Spring, 5 credits. Approval of instructor. The process of reading and learning from text. Applications in subject areas including identification of reading-reasoning processes in content, area subjects, assessment, and instructional procedures. Field trips may be required.

431. Teacher Preparation in Motorcycle Safety
Spring, 4(3-2) T E 347A, teaching certificate or College of Education major, motorcycle endorsement. Development of teacher competencies in developing, organizing, and teaching motorcycle safety education courses for novice drivers. Examination of existing curricula, teaching aids, and resources. Practice teaching of novice drivers.

432A. Laboratory Programs in Driver and Traffic Education
Spring, Summer, 5(3-4) T E 347A. Examination of the aims, objectives and role of laboratory programs in driver and traffic education. Directed laboratory experiences with new drivers will be provided.

432C. Organization and Administration of Driver and Traffic Education
Fall, Summer of even-numbered years. 3(3-0) T E 347A. Organizational and administrative aspects of driver and traffic education as they relate to the total school and other specialized programs. Historical and philosophical aspects, evaluation, related professional organizations, and occupational opportunities.

432E. Personality Factors in Driver and Traffic Education
Winter, Summer of odd-numbered years. 3(3-0) T E 347A, PSY 225. Study of behavior with emphasis on attitudes, motivation, and adjustment and their relationship to unsafe driving. Investigation of principles, and methods appropriate in identifying, understanding, and modifying unsatisfactory behavior.

432G. Fundamentals of Traffic Law
Spring, 3(3-0) Interdepartmental with the School of Criminal Justice. Nature, function and application of traffic law as it applies to the safe and efficient movement of people and goods in a broadly conceived traffic accident prevention program.

438A. Classroom Management in Business and Distributive Education
Spring, 4(3-2) T E 200 or T E 200A or T E 200B or T E 200C, T E 332 or approval of department. Principles and practices of using materials and media, using community resources; providing directed occupational experiences; how-to-individualize instruction; evaluating student achievement.

438C. Microcomputer Applications in Business and Distributive Education
Spring, 3(2-2) CEP 434, ACC 202, advanced typewriting, and/or approval of department. Methods of teaching information processing and its concepts, career paths, equipment; instructional systems and procedures; and evaluation.

442. Principles and Practices in Home Economics
Spring, 3(0-3) T E 470. Analysis of the student teaching experience. Professional expectations, role of the teacher, and scope of home economics programs.

444. Museum as an Educational Tool
Spring, 4(4-0) Juniors. The museum as an educational tool. Classroom preparation for the museum experience. Museum strategies including dioramas, collections, models, exhibits and reconstructions. Application of museum strategies to other educational settings.

446A. Teaching Science with Microcomputers
Winter, Summer, 3(3-0) CEP 434. Interdepartmental with the Department of Counseling, Educational Psychology and Special Education. Survey and critique of software available for science instruction; students adapt generic and create original microcomputer routines and/or teaching strategies for use in science teaching.

446B. Teaching Social Studies with Microcomputers
Winter, Summer, 3(3-0) CEP 434. Interdepartmental with the Department of Counseling, Educational Psychology and Special Education. Survey and critique of software available for social studies instruction; students adapt generic and create original microcomputer routines for use in social studies teaching.

450. School and Society
Fall, Winter, Spring, 3(3-0) T E 200 or T E 200A or T E 200B or T E 200C or T E 200D. Not open to students with credit in T E 356B, T E 350D, T E 450A, T E 450B or T E 450C. Study of the structure, function and purposes of educational institutions. Course provides options for students in meeting professional needs recognized in directed teaching and desired before entering full professional practice.

450A. Structures, Functions and Purposes of Schools
Fall, 3(2-2) Open only to students in Multiple Perspectives emphasis or approval of department. Examines the role, functions and structure of schooling as these impact teachers as decision makers, as continually developing professionals, and as members of the total school/community environment. Field trips may be required.

450B. Equity, Stereotypes, and Teaching
Winter, 3(3-0) Open only to students in Heterogeneous Classrooms emphasis or approval of department. Conceptual and empirical analyses of equity issues affecting learning, including ways teachers can promote equity among students differing in social class, race, ethnicity, gender, and handicapping conditions.

450C. School and Society
Winter, Spring, 3(3-0) Open only to students in Academic Learning emphasis or approval of department. Socioeconomic, cultural and philosophical foundations of education studied as issues that impact the teaching and the learning environment of the school.
403. Economics of Education

Winter. 3(3-0) EC 201 or EC 210 or approval of department. Interdepartmental with and administered by the Department of Economics. Relationship between education and the economy. Production of education, and the analysis of education as an investment. Supply and demand for teacher services. Financing education.

470. Student Teaching

Fall, Winter, Spring. 15(5-25) May reenroll for a maximum of 30 credits in T E 470, T E 470A, T E 470B, T E 470C, T E 470D to qualify for different area of certification. 2.00 cumulative grade-point average; T E 322 for Secondary Education majors; ASC 477 for Audiology and Speech Sciences majors; approval of department. Applications must be made to the Student Teaching Office as follows: Fall — during the previous October; Winter — during the previous February; Spring — during the previous April. Participation in activities of school and community. Teaching and related activities, observation, and seminar on the problems of teaching. Usually requires students to live in typical Michigan cities for an entire term. A competency based course.

473. Elementary Student Teaching: Special Education

Fall, Winter, Spring. 12 to 15 credits. Special education student teaching in elementary school settings; full-time practicum experience includes planning, implementing, and evaluating instruction; participation in Individualized Educational Planning Committees and multi-disciplinary planning exercises.

474. Secondary Student Teaching: Special Education

Fall, Winter, Spring. 12 to 15 credits. Special education student teaching in secondary school settings; full-time practicum experience includes planning, implementing, and evaluating instruction; participation in Individualized Educational Planning Committees and multi-disciplinary planning exercises.

480D. Proseminar in Learning Community

(T E 482D) Spring. 2(2-0) Open only to students in Learning Community emphasis or approval of department. Building on the practical, students select issues or problems of teaching for further study. Research is synthesized and experience reconsidered in addressing these issues in lectures, discussion, and group projects.

482. Seminar in Teacher Education

Fall, Winter, Spring. 1 to 6 credits. May reenroll for a maximum of 8 credits. Seminar in the various fields of emphasis in teacher education.

483. Readings and Independent Study in Teacher Education

Fall, Winter, Spring. 1 to 8 credits. May reenroll for a maximum of 8 credits. Supervised undergraduate practicums.

480. Crucial Issues in Education

Fall, Winter, Spring. 3(3-0) Approval of department. Problem analysis of timely issues in education analyzing their legal, historical, sociological, and philosophical dimensions. Attention centered on problems of continuing concern. Particular attention devoted to the role of the teaching profession in issues involving public policy.

501A. Seminars in Social and Philosophical Foundations of Education: Philosophy of Education

Fall, Winter, Spring, Summer. 3(3-0) Approval of department. Identification of underlying philosophical problems in education. Use of philosophical methodologies in resolving these problems. Development of a consistent personal philosophy of education.

501B. Seminars in Social and Philosophical Foundations of Education: Modern Philosophies of Education

Spring. 3(3-0) T E 801A. Critical analysis and evaluation of leading modern philosophies of education and their implications for practice, such as: existentialism, idealism, perennialism, realism, reconstructionism.

501C. Seminars in Social and Philosophical Foundations of Education: Social Criticism and Education

Fall. 3(3-0) T E 801A, approval of department. Educational implications of critical analyses of contemporary society. Particular attention given to discrepancies between ideology and practice. Building school programs designed to cope with cultural inadequacies.

502A. Education in the U.S.A.

Fall. 3(2-4) Passed English Language Center examination or approval of department. Designed to provide first term foreign students in graduate programs with theoretical and experiential background in American education.

503A. Comparative and International Education

Spring. 3(3-0) Approval of department. Objectives, content, methodology, research problems of comparative and international education analyzed. Social and cultural forces affecting educational planning and institutional building studied. Agencies involved in international education identified.

503B. Comparative Foundations of Education: Education in Industrialized Societies

Fall. 3(3-0) Approval of department. Comparative study of the policies, practices, social context of educational systems in major industrialized countries, such as Canada, England, France, Germany, Japan, Soviet Union, Sweden.

504A. Historical and Comparative Foundations of Education: History of American Education

Winter. 3(3-0) Approval of department. Development of educational thought and practice in the United States. Importance of cultural influences. A critical examination of progress toward educational goals. Implications of historical background for present problems.
812E. The Secondary School: Role, Function and Structure
Fall, Winter, Summer. 3(3-0) Teaching experience in secondary school classrooms. Examines the role, function and structure of various secondary schools. Emphasizes the relationships that do and should exist with other segments of the educational enterprise as well as with external agencies, organizations and institutions.

816L. Teaching for Cross-Cultural Perspective
Summer. 6(4-4) Approval of department.
A workshop offered in appropriate locations, usually overseas, to study and experience the problems, issues and instructional opportunities confronting the teacher or consulting specialist in "culture learning."

816M. Curriculum and Styles of Education
Winter, Summer. 3(3-0) Teaching experience, graduate student or approval of instructor.
Relates selected research on and models of educational styles to curriculum and instruction. Techniques for accommodating various learners, styles through planned changes in curriculum and instruction.

818A. Introduction to Education of Gifted Students
Fall, Summer. 3(3-0) Graduate students.
History and theory of educating gifted students. Current developments in the field, promising programs and practices.

819A. Proseminar in Reading Instruction
Fall, Spring, Summer. 3(3-0) Graduate students.
Reading instruction, its history and its current status.

819B. Language, Literacy and Reading Instruction
Winter, Summer. 3(3-0) T E 819A or approval of instructor.
Relationships between language processes and development of literacy in schools. Written literacy, reading and writing and its relationship to oral language is emphasized.

819C. Psychological Foundations of Reading Instruction
Fall, Spring, 3(3-0) T E 819A or approval of instructor. Interdepartmental with the Department of Counseling, Educational Psychology and Special Education.
Instruction in reading as informed by current research in cognitive psychology, with an emphasis on the relationship between cognitive processing and reading comprehension instruction.

820A. Problems in Elementary Reading Instruction
Fall, Winter, Spring, Summer. 3(3-0) Graduate student in education; undergraduate methods course in reading; approval of department.
For experienced teachers. Includes consideration of the basic aspects of ability to read, desirable reading attitudes, habits, and skills. Practices and materials used in reading programs are examined and appraised. Outstanding investigations dealing with problems in this area are studied and evaluated.
820C. Methods in Reading at the Secondary Level
Fall, Winter, Spring, Summer. 3(3-0)
Graduate students; teaching experience; approval of department.
An advanced study of the reading problems of high school and college students. Material and procedures for identifying the reading attainments and needs of the individual. Basic principles and techniques for improving reading skills.

820D. Reading and Learning in Content Area Subjects
Fall, Winter, Spring, Summer. 3(3-0)
Graduate student or approval of instructor. Developing reading comprehension abilities in content area subjects. Based on theories of interactive language development, the course presents methodology designed to help teachers develop literacy on levels 4-12.

820K. Research on Issues in Reading Instruction
Fall, Winter, Spring, Summer. 3(3-0)
C.E.P. 820G.
Reading and factors which influence the acquisition of reading skills; implementation and evaluation of reading instructional programs.

822A. Advanced Methods of Teaching Language Arts
Fall, Winter, Spring. 3(3-0)
Graduate students.
Survey of principles and instructional methods for teaching listening, speaking and writing attitudes and skills at the elementary and middle school levels; examination of current references and resources through self-selected area of special study.

822B. Special Topics in Language Arts
Winter, Summer. 3(3-0) May be repeated for a maximum of 15 credits if different topics are taken. T E 822A.
Five topic areas in language learning in pre-K to grade 12 classrooms: television listening and viewing, oral language competencies, beginning literacy through singing, poetry, and mechanics and writing.

822C. Children's Writing in the Elementary and Middle School
Winter, Summer. 3(3-0) T E 822A.
Methods for stimulating children's expression in a variety of modes of writing research on growth in skills of organization, vocabulary, sentence and paragraph development, and mechanical writing.

822E. Trends and Issues in Language Arts
Fall, Summer of odd-numbered years. 3(3-0) T E 822A.
To investigate and criticize trends, issues and research in language arts programming and instruction.

824A. Methods and Materials in Children's Literature
Fall, Winter, Spring. 3(3-0)
Undergraduate course in children's literature, graduate students.
Critical evaluation and utilization of literature for children.

824B. Methods and Materials in Adolescent Literature
Winter, Summer. 3(3-0) One undergraduate course in children's or adolescent literature or approval of department.
The critical evaluation and utilization of literature for pupils from middle school through senior high school (ages 15-18 years).

824C. Trends and Issues in Children's Literature
Winter and Summer of odd-numbered years. 3(3-0) T E 824A.
Provides graduate students an opportunity to design and evaluate current research related to children's literature as well as juvenile books and to conduct an in-depth study in the field of children's literature.

824D. The Teaching of Critical Reading
Winter and Summer of even-numbered years. 3(3-0) T E 824A.
Provides graduate students an opportunity to study current research in critical reading to identify and evaluate appropriate instructional materials, and to conduct an in-depth study in the field of critical reading.

824F. Literature for Young Children
Spring of even-numbered years. 3(3-0)
Approval of instructor.
Evaluation and utilization of literature from infancy through age six. Research about the effects of literature experiences on young children.

824G. Illustrations in Children's Books
Spring of even-numbered years; Summer every three years. 3(3-0) T E 824A.
Significant aspects of graphic arts pertaining to book illustrations especially those in books for children.

824J. Children's Classics and Award Books
Fall of odd-numbered years. 3(3-0) T E 824A or approval of instructor.
Evaluation and utilization of classics and award winning books for children (ages 4-16). Examination of research pertaining to children's responses to these literary selections.

826A. Specialized Methods and Materials for Teaching Elementary Science
Fall, Spring, Summer. 3(3-0) Experience in teaching; approval of department.
Develops additional competency in science education for the experienced teacher at elementary and middle school levels. Specialized methods for individual instruction or small group instruction are emphasized and evaluated.

826C. Seminar in Elementary Science Education I
Winter, Summer. 3(3-0) T E 826A or T E 318 or approval of department; experience in teaching.
Philosophical and psychological concepts relevant to the objectives and implementation of science education and a review of research in teaching science at the elementary level.

826E. Individual Problems in Elementary and Middle School Science Education
Fall, Winter, Spring. 1 to 3 credits. May be repeated for a maximum of 6 credits. T E 826A or T E 826C; experience in teaching. Identification of one or more problems in elementary or middle school science to be studied independently. Problem analysis would typically include readings, action research and original composition.

826G. Environmental Education in the School
Spring, Summer. 3(3-0)
Environmental issues and their implications for educational practices and policies. The role of the school in developing environmental consciousness.

828A. Teaching Elementary School Mathematics
Fall, Summer. 3(3-0) Experience in teaching and approval of department.
Advanced methods and materials used in teaching mathematics concepts in the elementary school.

828C. Teaching Elementary School Arithmetic
Winter. Summer of even-numbered years. 3(3-0) Experience in teaching and approval of department.
Advanced methods and materials used in teaching concepts of the whole, integer, rational and real number systems including systems of numeration.

828E. Elementary Education: School Mathematics Instruction
Summer. 3(3-0) Experience in teaching and enrollment in mathematics education.
Review of the literature—methodological and research—a look at instruction in school mathematics including planning, group instruction, individual instruction, evaluation and instructional materials.

829. Introduction to Research on Curriculum and Teaching
Winter, Summer. 3(3-0) Graduate student or approval of instructor.
Contemporary research on curriculum and teaching. Various perspectives on research, their underlying assumptions, and relationship of research and practice.

830A. Teaching Elementary School Social Studies
Fall, Winter, Summer. 3(3-0) Experience in teaching and approval of department.
Methods and materials used in teaching social studies in kindergarten through the eighth grade.

830B. Social Studies for Gifted Students
Fall, Spring. 3(3-0) Undergraduate social studies methods course. Approval of instructor.
Designing social studies curricula for gifted students, grades K-12. Theory and research, curriculum development processes, state mandates, and exemplary lessons and programs will be stressed.

830C. Social Studies Curriculum K-12
Winter, Summer. 3(3-0) Teaching experience.
Social studies curriculum planning, development and improvement. Emphasis on holistic K-12 view but each student will be encouraged to concentrate on a selected area or topic.

830G. Law: Focused Education: Methods and Materials for the Social Studies
Fall, Winter. 3(3-0) Undergraduate course in Social Studies Methods or approval of instructor.
Techniques for infusing and teaching law related concepts within school social studies programs. Emphasis placed upon the identification and development of materials for use in the classroom.

830K. Seminar on Global Education
Fall, Spring. 3(3-0) Approval of instructor.
Issues bearing upon the increasing global interdependence of people and the impact of curriculum materials and strategies designed to develop global perspective in American elementary and secondary schools.
834G. Instruction in Business Marketing Subjects
Summer, 3(3-0) Experience in teaching, improving instructional processes through research findings, readings, and experiences. Objectives, scope and sequence, diagnosis of learning difficulties; selected learning activities; evaluating achievement; selecting materials, media, and equipment.

834M. Instruction in Business and Marketing Education: Information Processing
Fall, Winter, Spring, Summer, 3(2-2) Experience in teaching, improving instructional processes through research findings, readings, and experience. Objectives, scope and sequence, diagnosis of learning difficulties; selected learning activities; evaluating achievement; selecting materials, media, and equipment.

840C. Principles and Programs of Vocational Education and Practical Arts
Fall, Summer, 3(3-0) Principles of vocational and technical education, comprehensive school program characteristics, program planning. Special emphasis is given to programs in agriculture, distributive, health, home economics, industrial, and office education. For vocational and practical arts teachers and local coordinators and directors of programs.

842G. Developing Occupational Curriculum in Two-Year Colleges
Fall, Summer, 3(3-0) T E 482A, EAD 870E or approval of department. Occupational curriculum development and course construction. Developmental projects involving community college faculty, students and employers. For prospective teachers and administrative personnel in two-year colleges.

846A. Administration of Vocational Education Programs
Spring, Summer, 3(3-0) Twelve graduate credits in Education or approval of department. Application of principles of administration to the administration of vocational and technical education programs in public and private institutions and federal, state and local educational agencies. Emphasizes competencies required in planning, managing, and evaluating vocational programs.

858E. Research in Education for Business
Winter, 3(3-0) Twenty-four graduate credits or approval of department. Analysis and discussion of selected issues relating to: education for business—structure, legislation, curriculum, training by government and business; curriculum and instruction. Emphasis upon problem-solving and extensive writing.

860G. Improving Instruction in Business Subjects
Summer, 3(3-0) Experience in teaching, improving instructional processes through research findings, readings, and experiences. Objectives, scope and sequence, diagnosis of learning difficulties; selected learning activities; evaluating achievement; selecting materials, media, and equipment.
875. Seminar on Classroom Instruction in Reading Comprehension
Winter. (3-3) Approval of department.
Research on classroom teaching and on reading comprehension, with implications for classroom instruction in reading comprehension.

881. Workshops in Curriculum and Teaching
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 6 credits.
Approval of department.
Laboratory approach which provides opportunity for educators to examine common areas of interest in curriculum, teaching, and teacher education.

882. Seminars in Curriculum and Teaching (MTC)
Fall, Winter, Spring, Summer. 1 to 9 credits. May reenroll for a maximum of 15 credits if different topics are taken. Approval of department.
Seminars in the various fields of emphasis in curriculum, teaching, and teacher education.

883. Readings and Independent Study in Curriculum and Teaching
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 15 credits. Approval of department.
Individual or group study in the various areas of curriculum, teaching, and teacher education.

884. Laboratory and Field Experiences in Curriculum and Teaching
Fall, Winter, Spring, Summer. 1 to 9 credits. May reenroll for a maximum of 15 credits. Approval of department.
Supervised graduate practicums, observations, internships, and externships in the various areas of curriculum, teaching, and teacher education.

899. Master's Thesis Research
Fall, Winter, Spring, Summer. 2 to 12 credits. May reenroll for a maximum of 12 credits. Approval of department.

901. Educational Sociology: Seminar
Winter. 3(3-0) Approval of department. Interdepartmental with and administered by the Department of Sociology.
Theories and research on interrelationships between socioeconomic conditions in society and the organization and operation of educational systems.

910A. Seminar: Curriculum Competencies and Careers
Fall. 3(3-0) Doctoral students in curriculum or approval of department.

910C. Seminar: Curriculum Issues
Spring. 3(3-0) Doctoral students in curriculum or approval of department.
In-depth exploration of the nature, history and significance of several perennial issues such as curriculum balance and curriculum control. Overview of selected current and probable future issues.

910E. Curriculum Research Seminar
Spring. 3(3-0) T E 810C; CEP 803.
Identification of researchable variables in the curriculum of educational institution or program. Design of descriptive, evaluative and experimental studies within ongoing complex social systems.

910G. Seminar: Curriculum Innovation
Summer. 3(3-0) Doctoral students in curriculum or approval of department.
Theories of and models for curriculum innovation and change. Use models to effect change. Analysis and evaluation of past and present curriculum innovations. Characteristics and roles of change agents.

910K. Comparative Curriculum Studies
Winter. 3(3-0) Advanced graduate students in Education.
Comparative study of global issues related to curriculum practices and designs.

910M. Seminar in Curriculum Theory
Winter, Summer. 3(3-0) T E 810A, T E 810C.
Examination of the historical, philosophical and epistemological foundations of the study of curriculum, especially comparing major positions about educational purpose and appropriate structure of learning experiences.

911. Conceptual Foundations of Teacher Education
Winter, Spring. 3(3-0) T E 975, T E 976, T E 977 or approval of instructor.
Philosophy of teacher education: concepts central to the curriculum of teacher preparation (e.g., disciplinary knowledge, professional ethics, learning from experience).

913. Seminar in Research on Teaching
Winter. 3(3-0) Approval of instructor. Interdepartmental with and administered by the Department of Counseling, Educational Psychology and Special Education.
Critical survey of five approaches to research on teaching. Students develop a framework for organizing the literature, methods, and issues in the field.

915. Readings and Research in Teacher Education and Professional Development
Spring. 3(3-0) Approval of department.
Literature on research on practice in teacher education field experiences. Issues, problems and skills needed by educational leaders in preservice and inservice teacher education.

916. Staff Development and the Realities of Teaching
Fall. 3(3-0) Doctoral Proseminar Sequence in Teacher Education or approval of instructor. Interdepartmental with the Department of Educational Administration.

917. Cognitive Theories of Knowledge Acquisition
Winter of even-numbered years. 3(3-0) CEP 411 or CEP 511 or approval of instructor. Interdepartmental with and administered by the Department of Counseling, Educational Psychology and Special Education.
Cognitive research and theories about the growth of knowledge in academic disciplines and the acquisition of disciplinary knowledge by elementary and secondary school students.

918. Teacher Assessment and Development
Fall, 3(3-0) Completion of 27 credits at graduate level.
Concepts of teacher assessment, techniques and instruments for analysis of teaching, current assessment practices, and strategies for teacher development based on needs.

920A. Research Methods for Studying Teaching Effects I
Fall. 3(3-0) Admission to doctoral program in education-related field.
Methods, theoretical perspectives and recent research about teaching effects on student outcomes.

920B. Research Methods for Studying Teaching Effects II
Winter. 3(3-0) T E 920A.
Data collection and data analysis methods for research on teaching effects.

920C. Research Methods for Studying Teaching Effects III
Spring. 3(3-0) T E 920B.
Development of research proposal for research on teaching effects. Development, piloting, and revision of data collection methods.

921. Fieldwork Research in Educational Settings I
Fall. 4(4-0) Approval of instructor.
Substantive and methodological issues in planning and conducting fieldwork research in educational settings. Knowledge and skills necessary to evaluate quality of fieldwork research. Critical review of examples of research reports.

922. Fieldwork Research in Educational Settings II
Winter. 4(3-3) T E 921, approval of instructor.
Supervised fieldwork research in educational settings. Techniques of data collection and analysis. Research question formation, entry, evidence, and ethics.

923. Fieldwork Research in Educational Settings III
Spring. 4(4-0) T E 922, approval of instructor.
Supervised analysis and reporting of fieldwork research data. Literature review, model construction, analysis of field notes and other data. Preparing narrative reports addressed to scientific audiences and to audiences of practitioners.

928. Conceptual Foundations of Educational Research
Fall. 3(3-0) Approval of instructor.
Interdepartmental with the Department of Counseling, Educational Psychology and Special Education.
Epistemology and ideology in educational research. Analysis of concepts of method, causality, objectivity and subjectivity in historical perspective.
930. Educational Selection: Characteristics and Consequences of Student Assessment
Winter of odd-numbered years. 3(3-0)
Doctoral student or approval of instructor.
Influence of assessment and selection of students on the shaping of student learning, educational trajectory, and access to social position.

931. Teaching: An American Argument
Spring of odd-numbered years. 3(3-0)
Graduate student or approval of instructor.
Historical analysis of competing conceptions of teaching. Angling on economic thought, literature, and social science, 1850 to present; implications for understanding, criticism, and reform of teaching.

932. Enduring Dilemmas of Educational Policy
Spring of even-numbered years. 3(3-0)
T E 975, T E 976, T E 977 or approval of instructor.
Enduring dilemmas that confront educational policymakers; how underlying tensions (e.g., between capitalism and democracy) shape policy on issues such as tracking, desegregation, vocationalism, and achievement.

933. Policymaking and Education
Spring of odd-numbered years. 3(3-0)
T E 975, T E 976, T E 977 or approval of instructor.
Impact of social, political, historical, economic, and judicial forces on educational policymaking. Dilemmas of policy formulation and implementation related to desegregation, school finance, compulsory education, and testing.

934. Education and Economic Development
Fall. 3(3-0) Approval of instructor.
Relationship between education and economic development, including economic growth, income distribution, and employment.

935. Sociolinguistics, Classrooms, and Educational Inequalities
Spring. 3(3-0) Approval of instructor.
Sociolinguistic and micro-ethnographic analyses of face-to-face interaction in educational settings, focusing on classrooms as sites for both reinforcing and overcoming educational and socio-economic inequalities.

936. Policy and Legal Issues in Testing
Spring of even-numbered years. 3(3-0)
CEP 401. Interdepartmental with the Department of Counseling, Educational Psychology and Special Education.
Public policy and legal issues concerning the use of standardized testing to make critical decisions about individuals in American public education.

937. Seminar: The Purposes and Effects of Schooling
Fall; every third Summer beginning 1987. 3(3-0) Admission to doctoral program in teacher education or approval of instructor.
Analysis of national and international perspectives on schooling which shape educational aspirations. Implications of different purposes of schooling for curricula, teaching force composition, pedagogical strategies, organizational arrangements, and student outcomes.

938. Seminar: Improving the Quality of Teaching
Winter; every third Summer beginning 1988. 3(3-0) Admission to doctoral program in teacher education or approval of instructor.
Consideration of various disciplines, historical and current accounts, and comparative research to improve the quality of teaching through changes in working conditions, formal teacher education, and school curricula.

939. Seminar: Consequences of Educational Reform
Spring; every third Summer beginning 1989. 3(3-0) Admission to doctoral program in teacher education or approval of instructor.
Multiple and conflicting sources, processes, and consequences of reform in educational policies and practices. Legislative and legal, curricular, institutional, professional, societal, and cross-cultural considerations.

940. Seminars in Curriculum, Teaching, and Educational Policy (MTC)
Fall, Winter, Spring, Summer. 1 to 9 credits. May renew for a maximum of 15 credits. Approval of department.
Seminars in teacher education doctoral emphasis areas: curriculum and instruction, disciplinary knowledge in K-12 education, research on teacher knowledge, practice, change, teacher preparation and staff development; teaching, policy, social analysis.

941. Readings and Independent Study in Curriculum, Teaching, and Educational Policy
Fall, Winter, Spring, Summer. 1 to 6 credits. May renew for a maximum of 15 credits. Approval of department.
Individual or group study in the various doctoral emphasis areas of curriculum, teaching, and educational policy.

942. Laboratory and Field Experience in Curriculum, Teaching, and Educational Policy
Fall, Winter, Spring. Summer. 1 to 9 credits. May renew for a maximum of 15 credits. Approval of department.
Supervised graduate practicums, observations, internships, externships in the various doctoral emphasis areas of curriculum, teaching, and educational policy.

943. Doctoral Dissertation Research
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

944. History and Economics of Telecommunication
Fall, Winter, Spring, Summer. 4(3-2)
Sophomores, EC 201, successful completion of MTC 108.
Institutional and cultural development and underlying economic principles of the telecommunication field, including broadcast programs.

945. Basic Telecommunication Technology
Fall, Winter, Spring, Summer. 4(4-0)
Sophomores, TC 310, TC 325, CPS 115.
An analysis of technical factors involved in electronic communication; transmission, sound physics and aural technology, light physics, visual behavior and image technology, computer and automation controls, technical telecommunication policy formulation.

946. History of the Motion Picture
Fall, Spring. 4(2-4) 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 countries.

947. The Effects of Mass Communication
Fall, Winter, Spring, Summer. 4(4-0) Interdepartmental with the Department of Communication.
Major social effects of mass media on audience behavior. Political communication. Media effects on children. Message strategies producing attitude change. Interrelationship between mass media and interpersonal communication. Decision making in mass media.

948. Basic Audio Production
Fall, Winter, Spring, Summer. 4(2-4)
TC 230, majors or approval of department.
Basic orientation to audio and radio studios, with laboratory experiences in production, writing and performance.

949. Basic Video Production
Fall, Winter, Spring. 4(4-0) TC 230, majors or approval of department.
Basic orientation to video and television studios, with lab experiences in production, writing and performance.

950. Basic Telecommunication Policy
Fall. 4(4-0) TC 210, TC 220, TC 230.
Essential U.S. public communication policy is treated through rigorous methodological analysis of case and statutory law, public documents and related primary materials.

951. Telecommunication Program and Production Management
Winter. 4(4-0) TC 302 or concurrently.
Sources of program material, economics of program market, program regulation, ascertainment of audience needs and interests, formative and summative research, programming strategy, showmanship, management of production facilities and personnel.

952. Audience Survey and Analysis
Winter, Spring. 4(4-0) Juniors.
Designing research for the study of telecommunication audiences. Survey research, sampling, questionnaire construction, research administration. Analysis and interpretation of research results. Audience measurement services and feedback systems.