#### Independent Study 490.

Fall, Spring. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course.

R: Not open to freshmen and sophomores. Approval of department.

Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings. QA: THR 499A

#### 492. Senior Seminar

Spring. 2(2-0)
P: THR 341, 15 credits in Theatre. R: Open only to seniors in Theatre.

Contemporary theatre, dance, and performance theory and practice.

#### 494. Performance Tour

Fall, Spring. 3(0-6) A student may earn a maximum of 6 credits in all enrollments for this course.

R: Acceptance into cast of touring production. Rehearsal for and participation in the various departmental touring productions. QA: THR 489

#### 800. Theatre Research Methodology

Fall. 3(3-0)

R: Open only to graduate students in Theatre. Research techniques appropriate to theatre. Library resources QA: THR 800

#### 801. Practicum in Theatre Arts: Acting

Fall, Spring. 3(0-8) A student may earn a maximum of 18 credits in all enrollments for this course.

R: Open only to graduate students in Theatre. Acting skills and techniques, including improvisation and Stanislavskian techniques. QA: THR 803A

## 802,

Stage Voice Fall. 2(0-4) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in Theatre. Principles and exercises for developing the speaking voice. Application to selected dramatic texts. QA: THR 802

## 803.

Acting Theory
Spring of odd-numbered years. 3(3-0) R: Open only to graduate students in Theatre. Theories, processes, techniques, and styles of acting set forth in the writings of prominent performers, teachers and critics. QA: THR 809

## 811.

811. Problems in Theatre Design
Spring, 3(2-2) A student may earn a maximum of 15 credits in all enrollments for this

Course.

R: Open only to graduate students in Theatre.

Approaches to design problems in costumes, scenery, lighting, architecture, properties, or sound.

QA: THR 804

## 20th Century Theatrical Design

Fall of odd-numbered years. 3(3-0) R: Open only to graduate students in Theatre. Scenic design concepts of 20th century through selected work of Appia, Craig, and others.

QA: THR 814

### 813. Period Resources for Directors and Designers

Fall of even-numbered years, 3(3-0) R: Open only to graduate students in Theatre. Methodology for researching historical customs and artifacts that directors and designers adapt for use in sets, props, costumes, and directing. QA: THR 815

## Studies in Theatre History

Fall of odd-numbered years, Spring of even-numbered years. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course.

R: Open only to graduate students in Theatre. Selected periods and genres of world theatre history. Theatre as cultural expression and as performance art. Topics vary. QA: THR 808

#### 832. Studies in Comparative Theatre and Drama

Fall, Spring. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course. Interdepartmental with English.
Comparative study of selected playwrights, developments, movements, and trends in world drama from

their beginnings to the present. QA: THR 805

## 833. Dramatic Theory and Criticism

Fall. 3(3-0) P: THR 800 or approval of department. R: Open only

to graduate students in Theatre.
Critical and theoretical texts on drama from the early
Greeks to the present.
QP: THR 800 QA: THR 801A, THR 801B

841. Advanced Directing Practices
Spring of odd-numbered years. 3(2-2) A
student may earn a maximum of 6 credits in all enrollments for this course.

R: Open only to graduate students in Theatre. Directing theory and practice in contemporary theatre, including research and experimentation. QA: THR 806

890. Independent Study
Fall, Spring, Summer. 1 to 4 credits. A
student may earn a maximum of 8 credits in all enrollments for this course.

R: Open only to graduate students in Theatre or approval of department.

Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings. QA: THR 890

## Special Projects in Theatre

Fall, Spring. 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course.

R: Open only to graduate students in Theatre. Approval of department.

Special projects related to specific assignments in acting, directing, or design in departmentally approved production. QA: THR 890

## Master's Thesis Research

Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course.

R: Open only to graduate students in Theatre.
Directed research leading to a master's thesis, used in partial fulfillment of Plan A master's degree requirements. QA: THR 899

#### 990. Doctoral Independent Study

Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course.

R: Open only to graduate students in Theatre or ap-

proval of department.

Special projects, directed reading, and research arranged by an individual doctoral student and a faculty member in areas supplementing the regular course offerings. QA: THR 990

## Doctoral Dissertation Research

Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in Theatre.

QA: ENG 999

## URBAN PLANNING

## UP

## College of Social Science

## The Role of Planning in Urban and Regional Development Fall. 3(3-0)

Contemporary urban issues, historical contexts, and the role of planning in the solutions of the problems faced by cities and their surrounding regions. QA: UP 200 or UP 400

## Presentation Techniques

Fall. 2(0-4)

R: Open only to students in College of Social Science. Not open to students with credit in LA 220. Uses of graphic, photographic, video, and computer generated media to make presentations to clients and community groups. QA: LA 120

## 233. Site Design for Planners and Developers

Fall. 2(0-4)

P. UP 231. R. Open only to students in the College of Social Science.

Designing a site for a development project: soils, drainage, elevations, view, topography, utilities, wetlands, and other elements. QA: LA 201

## Data Collection and Evaluation 313. Analysis for Urban Planners Fall. 3(2-2)

P: CPS 100 or CPS 130 or CPS 131; UP 201. Data gathering analysis, information presentation, and basic techniques of urban planning. Application of related computer programs and software. QP: CPS 100 or CPS 112 or CPS 115 QA: UP 341

## Methods for Investigation of Urban Systems

Spring, 3(2-2)

P: UP 313.

Models, approaches, and techniques for urban and regional problem analysis and plan formulation. QP: UP 341 QA: UP 342

#### 323. Land and Environmental Planning Fall. 3(3-0)

P: UP 201.

Principles and techniques of environmental and land use planning. Environmentally sensitive management of growth and change at both urban and regional QP: UP 200 QA: UP 363

## 334. Real Estate Project Design

Spring. 4(2-4)
P: UP 233.

Subdivision design, criteria, and standards. Integrat-ing activities, structures, and spaces on parcels of varying sizes and configurations QP: LĂ 120, LA 201 QĂ: UP 351

## Ethics and Politics in Planning

Spring. 3(3-0) P: UP 201.

Political impact of community decision-making on planning. Ethics and values of professional practice. QP: UP 200 QA: UP 363, UP 443

#### 354. Local Economic Planning

Spring. 3(3-0)
P: UP 201, EC 201 or approval of department.
The economic component of comprehensive community planning. Taxation and services delivery. Fiscal health and physical and social development of a community. QP: UP 200 or UP 400 QA: UP 462

Special Topics in Urban Planning Fall of odd-numbered years. 2 to 4 credits. R: Open only to juniors and seniors in Urban and Regional Planning. Issues and problems in contemporary urban planning.

#### Comparative Urban Development 408. Planning

Spring, 3(3-0)
P: UP 201. R: Open only to majors in Urban and
Regional Planning, or Urban and Regional Planning-Urban Studies.

Community planning concepts and practices, tools and techniques in different countries. Case studies. QP: UP 200 or UP 400 or UP 808

## 417. Information Systems and Program Evaluation in Urban Planning Fall. 3(2-2)

P: UP 314 or approval of department. R: Open only to majors in Urban and Regional Planning, or Urban and Regional Planning-Urban Studies or Public

Administration. Systems and methods for surveillance, monitoring, management and evaluation of development projects, social programs and public policies. QP: UP 342 or UP 815 QA: UP 410

#### 427. Mine Land Reclamation Planning

Fall of odd-numbered years. 3(3-0)
P: UP 334. R: Open only to majors in Urban and
Regional Planning or Urban and Regional Planning-Urban Studies or Landscape Architecture or Resource
Development or Resource Development Issues, procedures, and opportunities in mine land reclamation.

QP: UP 200 or UP 400 or UP 816

## Principles of Regional Planning 428

P: GEO 113 or UP 201. R: Not open to freshmen and

Principles and theoretical issues of regional planning. Applied spatial analysis techniques. Policies and procedures. QP: GEO 213

#### Urban Design 437.

Fall of even-numbered years. 3(1-4)
P: UP 334 or LA 473 concurrently. R: Not open to freshmen and sophomores.

Urban design theory and application of physical design principles at various scales. Design of urban open space systems, building groupings, urban linkage, and site details in studio projects.

QP: UP 351 QA: UP 352

#### 439. Golf Course Planning and Design

Fall of even-numbered years. 3(3-0) Interdepartmental with Landscape Architecture.

P: UP 344 or LA 342. R: Open only to seniors and graduate students in Urban and Regional Planning or Urban and Regional Planning-Urban Studies or Landscape Architecture.

History, planning, and design of the golf course as a component of the community. Environmental, regulatory, technical, and financing issues.

## 457. Local Economic Development

Fall. 3(2-2)
P: UP 354. R: Open only to juniors and seniors.
Principles and techniques of local economic development planning. Impacts of state, federal, and global economic policies and programs. QP: UP 462 or UP 473 QA: UP 862

#### Housing and Real Estate Development 458. Spring of odd-numbered years. 3(2-2)

P: UP 354.

Real estate development process from idea inception to asset management. Finance, organization, design and implementation. Housing, social impacts, and public sector involvement. QP: UP 462 or UP 473 or UP 433

Fig. 1. Fig. 1. Fall. 3(3-0)
P: UP 344. R: Not open to freshmen and sophomores.
Statutory and case law for local government planning and development regulation.
QP: UP 200 or UP 400, UP 335 or UP 808 QA: UP 472

## Planning Law II

Spring. 3(3-0) P: UP 465.

Advanced topics in urban planning legislation and

case law. QP: UP 472 or UP 824

## 478. Urban Transportation Planning

Spring. 3(3-0) P: UP 201, UP 314. R: Open only to majors in Urban and Regional Planning, or approval of department.
Principles of decision-making in urban transportation planning. Demand and supply analysis, social and environmental impacts, implementation programs. Use of computer models. QP: UP 200, UP 342 or UP 808, UP 815

#### 480. Internship in Urban Planning

Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 8 credits in all R: Open only to majors in Urban and Regional Plan-

ning or Urban and Regional Planning-Urban Studies. Approval of department.
Supervised planning experience in a professional

setting. QA: UP 489

## Historic Preservation and Preservation Planning in the U.S. 483.

Fall. 4(4-0) Interdepartmental with History of Art and Landscape Architecture. Ř: Not open to freshmen and sophomores. Approval

of department. History and philosophy of the preservation of buildings, structures, and objects significant to the heritage of this nation. Preservation as a planning tool for local

governments. QA: HA 480, HA 481

## Senior Planning Practicum I

Fall. 3(0-6)

R: Open only to seniors in Urban and Regional Plan-

ning.
Collection, analysis and synthesis of planning information for an established urban area and region. Formulation of comprehensive physical development policies and plans, and of implementation programs. QA: UP 461A

#### 486. Senior Planning Practicum II

Spring. 3(0-6) P: UP 485.

Further collection, analysis, and synthesis of planning information. QP: UP 461A QA: UP 461B

## Independent Study in Urban 490. Planning

Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course.

R: Not open to freshmen and sophomores. Approval of department.

Faculty-supervised individual study in aspects of urban planning. QA: UP 490

#### Special Topics in Urban Planning 800.

Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course.

R: Open only to graduate students in Urban and Regional Planning.

Issues and current research in urban planning. QA: UP 897

## Concepts and Issues in Planning and Development

 $Foll, 3\tilde{G}(3.0)$ 

Urban and regional planning and development. History of the planning profession. Current urban issues and planning approaches. QA: UP 808

#### 813. Quantitative Methods for Urban Planning

Fall. 3(2-2)

R: Open only to graduate students in Urban and Regional Planning, Public Administration, and Geog-

raphy. Quantitative techniques for the analysis and classifi-cation of data for urban planners. QA: UP 427

## Applied Research Methods for Planning and Development 814.

Spring, 3(2-2)
P: UP 813. R: Open only to graduate students in Urban and Regional Planning, Public Administration, and Geography.

Techniques in urban and regional planning analysis. Forecasting models. Methods of urban project evalua-

tion. QP: GEO 427 QA: UP 815

## Urban Land Management Fall. 3(3-0) 823.

P: UP 801 or concurrently.

Concepts, principles, tools, and techniques of urban and regional land management. Land use planning, public facilities, infrastructure location, and environmental sensitivity in land management. QP: UP 808 QA: UP 816

## 834. Urban Design and Project Development

Spring. 3(1-4)
P: UP 801. R: Open only to graduate students in Urban and Regional Planning.
Design of development projects. Integration of structures, spaces, activities, and design elements in various urban settings. QP: UP 828 QA: UP 836

## Decision Theory for Urban Planning and Development

P: UP 801 or R: two graduate courses in the Master of Public Administration program.
Planning and development process. Political decision-

making in the planning context. Professional ethics and practice. QP: UP 808 QA: UP 816, UP 818

## Urban Policy Analysis

Spring. 3(3-0)

History of national urban policy. Developmental stages in processing new public policies. QA: UP 803

## Economics of Planning and Development

Spring. 3(3-0)

P: UP 801.

The physical urban environment and local economic development.

QP: UP 808 QA: UP 462, UP 473

#### 865. Planning and Development Law Fall. 3(3-0)

Constitutional and statutory bases for planning and development. Effects of case law on design, administration, and implementation of regulations. QP: UP 816 or UP 808 QA: UP 824

#### 889. Master's Research

Fall, Spring, Summer. 3 credits.
R: Open only to graduate students in Urban and R. Open only to graduate statems in Graduatia Regional Planning. Approval of department. Supervised individual research for Plan B master's program. QA: UP 898

#### 890. Independent Study

Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Approval of department. Faculty-supervised study in aspects of urban planning. QA: UP 800

Internship in Urban Planning 893. Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 8 credits in all

enrollments for this course.

R: Approval of department.

Supervised individual experience in approved agencies and departments in the Lansing area.

QA: UP 889

#### 894A. Planning Practicum I

Fall. 2(0-4)

R: Open only to graduate students in Urban Planning. Professional practice in the collection, analysis, and synthesis of information by students or student groups under faculty supervision. Developing solutions to specific urban problems. QA: UP 834

#### 894B. Planning Practicum II

Spring. 2(0-4) P: UP 894A. R: Open only to graduate students in Urban Planning.

Professional practices in the preparation of plans appropriate to the study area and subject matter examined in UP 894A. Designing statutory measures and administrative policies for implementation. QP: UP 834 QA: UP 835

#### Master's Thesis Research 299.

Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department.

QA: UP 899

#### VETERINARY MEDICINE VM

## College of Veterinary Medicine

## Veterinary Systems Biology and Medical Science I 200.

Spring. 7(5-4)
P: MTH 116, CEM 142. R: Approval of college.
Multidisciplinary approach to the musculoskeletal system of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care of animals. Techniques of restraint. Patient management. Medical record keeping. QA: VM 020, VM 022, VM 023

# Veterinary Systems Biology and Medical Science II

Spring. 7(5-4)
P: MTH 116, CEM 142. R: Approval of college. Multidisciplinary approach to the hematopoietic and cardiovascular systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease. QA: VM 020, VM 021, VM 023

## Veterinary Technology Clerkship in Anesthesiology

Fall, Spring, Summer. 3 credits.
P. VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in anesthesiology. QA: VM 050

#### 411. Veterinary Technology Clerkship in Radiology

P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in radiology.
QA: VM 070

## Veterinary Technology Clerkship in Companion Antmal Medicine 412.

Fall, Spring, Summer. 3 credits. P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in restraint, examination, nursing care, monitoring, and preventa-tive medicine of companion animals. QA: VM 062

413. Veterinary Technology Clerkship in Companion Animal Surgery
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in surgical nursing. QA: VM 070

# 414. Veterinary Technology Clerkship in Equine Medicine and Surgery Fall, Spring, Summer. 3 credits. P: VM 302, VM 303, VM 304. R: Approval of college.

Application of principles and techniques in equine medicine and surgery. QA: VM 062

# Veterinary Technology Clerkship in

Emergency Medicine
Fall, Spring, Summer. 3 credits.
P: VM 412. R: Approval of college.
Application of principles and techniques in emergency medicine. QA: VM 050

## **451**. Veterinary Technology Clerkship in Cardiology

Fall, Spring, Summer. 3 credits. P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in cardiology. QA: VM 050

## 452. Veterinary Technology Clerkship in Neurology

Fall, Spring, Summer. 3 credits. P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in neurology and physical therapy. QA: VM 070

# Veterinary Technology Clerkship in

Ophthalmology
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in ophthalmology. QA: VM 050

#### 454. Veterinary Technology Clerkship in Critical Care

Fall, Spring, Summer. 3 credits.
P: VM 412. R: Approval of college.
Application of principles and techniques in critical care. QA: VM 050

## 460. Veterinary Technology Clerkship in

Equine Anesthesiology
Fall, Spring, Summer. 3 credits.
P: VM 410, VM 414. R: Approval of college.
Application of principles and techniques in equine anesthesiology. QA: VM 050, VM 062

# Veterinary Technology Clerkship in Equine Field Service

Fall, Spring, Summer. 3 credits. P: VM 414. R: Approval of college. Application of principles and techniques in equine field service QA. VM 062

## Veterinary Technology Clerkship in Advanced Equine Medicine and 462 Surgery

Fall, Spring, Summer. 3 credits. P: VM 414. R: Approval of college. Application of principles and techniques in equine medicine and surgery.

# Veterinary Technology Clerkship in

Food Animal Medicine
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in food animal medicine. QA: VM 062

# Veterinary Technology Clerkship in Production Medicine

Fall, Spring, Summer. 3 credits.
P: VM 470. R: Approval of college.
Application of principles and techniques in production medicine. QA: VM 062

## 472 Veterinary Technology Clerkship in Food Animal Anesthesiology

Proll, Spring, Summer. 3 credits.
P: VM 410, VM 470. R: Approval of college.
Application of principles and techniques in food animal anesthesiology.

## 480. Veterinary Technology Clerkship in

Clinical Pathology
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in clinical

## Veterinary Clerkship in Microbiology

Fall, Spring, Summer. 3 credits. P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in microbiolo-

#### 482. Veterinary Technology Clerkship in Necropsy

Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in post mortem examination of common domestic species with emphasis on specimen description, collection, and submission.

## Veterinary Technology Clerkship in Biomedical Research 483.

Fall, Spring, Summer. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
P: VM 400. R: Approval of college.
Application of principles and techniques in biomedical

research involving laboratory animals.

# Veterinary Technology Clerkship in Zoo and Wildlife Medicine

Fall, Spring, Summer. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: VM 410, VM 411, VM 412, VM 413, VM 414. R: Approval of college.

Application of principles and techniques in zoo and wildlife medicine.

## Veterinary Perspectives I 511.

Fall. 2(1-2)

R: Open only to graduate-professional students in College of Veterinary Medicine. Animal handling, restraint, and physical examination.

## Veterinary Integrative Problem Solving I

Fall. 1(1-0)

R: Open only to graduate-professional students in College of Veterinary Medicine. Integration of subject material from concurrent semester courses.

## Veterinary Perspectives II

Spring. 2(2-0)

R: Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 590. Not open to students with credit in VM 590.

Veterinary medical history and ethics. Client communication and animal behavior. QA: VM 590

#### 522. Veterinary Integrative Problem Solving II

Spring 3(3-0)

R: Open only to graduate-professional students in College of Veterinary Medicine. Integration of subject material from concurrent and previous semester courses.

#### 532. Veterinary Integrative Problem Solving IĬI

Fall. 3(1-4)

R: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine.
Integration of subject material from concurrent and previous semester courses.

## 533. Veterinary Epidemiology

Fall. 3(3-0)

P: Completion of semester 2 of the graduate professional program in the college of Veterinary Medicine. R: Not open to students with credit in VM 549. Basic epidemiologic theory and study design. Veterinary descriptive and inferential biostatistics. Production veterinary medicine. QA: VM 544