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## College of Arts & Sciences

### Africana Studies

#### **AFA 220. Africana Theories of Knowledge.** (3)h.

Basic issues arising in Africana epistemology and cosmologies. Introduction to critical thinking about various “knowledges” in an analytical and comparative manner. Use of qualitative research tools as means of generating African centered ways on knowing the world; African religions and philosophies.

#### **AFA 375. Community Building through Educational Involvement.**

AFA 101 or ANT/INT 100 or SOC 100 or SWR 100; at least junior standing; or consent of instructor. (3). Participation and observation in schools and community-based organizations, integrated with an interdisciplinary seminar on urban social issues and cultural variation. Skills required for various forms of community action; techniques include qualitative research methods, assessment, planning, intervention, and evaluation. Also listed as **EDS 361 (EDU 375)** and **SWR 361 (SWK 375)**.

### Anthropology

**ANT 391. Directed Readings/Research in Anthropology.** Consent of instructor, at least junior standing. (1-3).

Directed reading or research study by qualified students under instructor’s supervision. By special arrangement only. Also listed as **SOC 391**.

**ANT 415. Seminar on Contemporary Global Issues.** SOC/ANT 302 or 303 or senior standing; consent of instructor. (3)s.

Issue-based course linking recent social theory, empirical research, and predicaments of public policy within a comprehensive global framework. Focus on globalization and issues of social and political importance central to recent debates within and outside the academy. Multi-disciplinary approach; materials drawn from the U.S., Europe, and developing world that highlight recent

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global socio-economic transformations. Designed to serve students majoring in a number of different fields, especially those engaged in specific research projects and/or preparing for graduate school. Also listed as **INT 415**.

**ANT 499. Senior Seminar.** ANT/SOC 302 or 303, senior standing. (3).

Critical review of the sociological and anthropological literature with attention to the interaction of theory and research.

### Art & Art History

**ARH 382. Advanced Ceramics.** ART 381. (3)f.

Advanced studio course. Continued exploration of hand building techniques and work on the potter's wheel to execute designs in clay for functional and non-functional purposes. Formulating glazes, stacking and firing a kiln. Advanced students encouraged to research and develop personal styles in aesthetic response and technique. May be repeated to total 12 credits.

**ARH 406. Corporate Identity/Business Graphics.** ART/COM 232

or consent of instructor. (3)f. Exploration of the logo and logotype as visual representation, including application to collateral business materials. Emphasis on the creative process, research, and branding techniques. Also listed as **COM 406**.

**AHR 397. Directed Research: Art History.** Consent of department chair and instructor. (1-3)h.

Independent research experience in art history under the direction of an art faculty member. Designed for students studying away from the Flint campus.

### Biology

**BIO 323. Statistical Packages.** A course or approved background in probability or statistics; admission to the professional program in physical therapy or consent of instructor. (2).

Introduction to collection and interpretation of data utilizing computer technology. Value and utility of statistical tools and computer technology as a technical adjunct for critical inquiry and decision making in research and practice. Lecture and Laboratory. Also listed as **SOC 323**.

**BIO 490. (390). Co-op Experience.** Two 300 or higher level BIO courses; consent of chair and one additional BIO faculty member. (2).

Biology-oriented workplace experience. Each student must work with a faculty advisor to supervise the co-op experience. Written report and oral presentation or poster session of research activities. May be reelected to a maximum of 6 credit hours for different experiences. Credit in BIO 490 and 491 may not exceed a combined total of 6. Not open to students in the Honors Program in Biology.

**BIO 493. Honors Research Methods.** Consent of Department Chair. Open only to Honors Program students in biology. (1).

Specific field and/or laboratory methods selected for study with student's University of Michigan-Flint faculty supervisor. Basis for selection determined by the student's proposed program of off-campus research. Graded ABCDE/Y.

**BIO 494. Honors Independent Research.** Prior or concurrent election of BIO 493; consent of Department Chair. Open only to Honors Program students in biology. (1).

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Specific research to pilot the experiments to be performed during student's program of off-campus research. Graded ABCDE/Y.

### Chemistry

**CHM 299. Supervised Chemical Research.** CHM 262, CHM 263 or 265, consent of instructor. (1-3). Original chemical research problems for sophomore and junior level students. Problems are pursued in consultation with the directing faculty member. May be reelected to a maximum of four credits. Graded ABCDE/Y.

**CHM 310. Introduction to Professionalism in Chemistry.** At least junior standing, declared concentration in chemistry. (1).

Introduction to research. Documentation, technical writing and oral presentation. History of chemistry. Searching the literature of chemistry. Professionalism and ethical behavior in the chemical sciences. Students will present a brief seminar. One 90-minute lecture/discussion meeting weekly.

**CHM 499. Chemical Research.** Minimum GPA of 2.5 in all chemistry courses taken at UM-Flint; consent of instructor. (1-4).

Original chemical research problems chosen and pursued in consultation with the directing faculty member. Written report required. One credit required for all CHM Majors. Graded ABCDE/Y

### Communications

**COM 300. Introduction to Research Methods in Communication.** At least junior standing; two 200-level COM courses or consent of instructor. (4).

Case study introduction to qualitative and quantitative methods of research in communication. Historical, critical, experimental, and survey methodology in research in communication.

**COM 361. Public Relations.** ENG 112, COM 200; or consent of instructor. (3). Theory, philosophy, and function of agency, business, and institutional relations with the public through newspaper, radio, television, and other media. Procedures for researching, planning, implementing and evaluating public relations campaigns, with special emphasis on writing and publicity problem solving.

**COM 390. Independent Research.** Consent of instructor. (1-3).

Research study by qualified students under the supervision of the instructor. Research may use a variety of methodological approaches in communication (i.e., critical, historical, quantitative). Graded ABCDE/Y.

**COM 204. Fundamentals of Debate and Forensics.** (3).

Theories, structure and skills of debate and forensics. Emphasis on research, library and notetaking skills. Practice of competitive speaking skills and of research and oratorical skills as applied to national Competitive Intercollegiate Debate and Forensics. National debate topics and Michigan Intercollegiate Speech League activities. Students demonstrate abilities in classroom debates and in forensics activities. Also listed as **THE 204.**

**COM 406. Corporate Identity/Business Graphics.** ART/COM 232 or consent of instructor. (3)f.

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Exploration of the logo and logotype as visual representation, including application to collateral business materials. Emphasis on the creative process, research, and branding techniques. Also listed as **ART 406**

### Criminal Justice

**CRJ 391. Directed Reading/Research in Criminal Justice.** Consent of instructor, at least junior standing. (1-3).

Directed reading or research study by qualified students under instructor's supervision. By special assignment only. Graded ABCDE/Y.

### Environmental Science & Geology

**ENV 389. Directed Research in Environmental Studies.** At least junior standing, consent of instructor. (1-3).

**GEO 297. Professional Development I.** At least sophomore standing and declared concentration in earth science, physical geography, resource ecology or resource planning. (1).

Methods and techniques for data management, survey research, professional writing, report preparation, public presentations and other topics. A different topic taught each year.

**GEO 299. Professional Development III.** Sophomore standing. (1).

Methods and techniques for data management, survey research, professional writing, report preparation, public presentations and other topics. A different topic taught each year.

**GEO 491. Resource Science Departmental Seminar II.** Consent of instructor. (1-3).

Applied research in resource science, including supervised fieldwork. Graded ABCD>N.

**GEO 498. Research in Geoscience.** Consent of instructor; completion of majority of degree requirements in physical geography, resource ecology or resource planning. (1-3).

Research in physical geography, environmental science, and related fields, conducted independently or with faculty. Graded ABCDE/Y.

**RPL 470. Geographic Information Systems Practicum.** RPL 371 or consent of instructor. (3).

Application of Geographic Information Systems (GIS) and remote sensing techniques to research and field problems. Emphasis on integration of these geographic technologies in practical problem solving, such as land use change, landscape ecology, and pollution detection.

### Economics

**ECN 394. Directed Research in Economics.** At least 18 credits in economics and consent of instructor. (1-3).

Applied research under faculty supervision on an appropriate topic in economics. Graded ABCDE/Y.

### English & Linguistics

**ENG 359. Special Topics in Literary Studies.** ENG 112 and a sophomore level literature class; or consent of instructor. (3)h.

Examination of literary topics of special interest that may cross historical periods, genre distinctions and disciplines. Depending on the topic, instruction in special research methods may be offered. Because

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students should have some prior experience analyzing literary texts, the course provides opportunities for developing unique research or creative projects. May be elected only once.

**ENG 396. Honors Research.** Consent of English honors advisor and Department Chair. (1)h.

Honors research for English honors concentrators, to be taken in conjunction with a course numbered 300 or above, chosen with the advice and consent of the English honors advisor. Graded ABCDE/Y.

**LIN 421. (311). First Language Acquisition.** ENG/LIN 200, at least junior standing. (3). Survey of general stages and proposed theories of child language acquisition. Topics include research methodology, atypical language development, reading and writing.

**LIN 521. First Language Acquisition.** Graduate standing. (3)g.

Survey of general stages and proposed theories of child language acquisition. Topics include research methodology, atypical language development, reading and writing. Not open to students with credit for LIN 421.

### Foreign Language

**FRN 395. Honors Research Methods.** Consent of French Honors Program Advisor. (1).

Research methods for French honors concentrators, to be taken in conjunction with a course numbered 300 or above chosen with the advice and consent of the French honors advisor. Graded ABCDE/Y.

**FRN 396. Honors Independent Research.** Consent of French Honors Program Advisor. Open only to Honors Program students in French. (3). Graded ABCDE/Y.

**SPN 395. Honors Research Methods.** Consent of Spanish Honors Program Advisor. (1).

Research methods for Spanish honors concentrators, to be taken in conjunction with a course numbered 300 or above chosen with the advice and consent of the Spanish honors advisor. Graded ABCDE/Y.

**SPN 396. Honors Independent Research.** Consent of Spanish Honors Program Advisor. Open only to Honors Program students in Spanish. (3). Graded ABCDE/Y.

**HIS 395. Directed Research.** HIS 301 or 15 credits in history and consent of Department Chair and instructor. (1-3)s.\*

Independent research experience under the direction of a member of the Department of History.

\*No more than a total of three credits from HIS 391 and 395, combined, may apply to the requirements for the General Program or Minor or Teacher's Certificate Program in History. Graded ABCDE/Y.

### Mathematics

**MTH 377. Methods of Operations Research.** MTH 220 with a grade of C (2.0) or better; or consent of instructor. (3).

Topics in mathematical modeling, including detailed study of linear programming and simplex methods. Additional topics chosen among dynamic programming, game theory, queuing theory, integer programming, and project scheduling. Usually offered in the Fall of even-numbered years.

## Music

**MUS 220. Music Survey.** MUS 100 or consent of instructor. (3)h.

In-depth study of selected composers of Western music, bringing to life the music, personalities and social settings of major composers including J. S. Bach, Mozart, Beethoven, etc. Outside reading, listening assignments and individual research required.

## Philosophy

**PHL [393. Philosophy Research Laboratory.** Consent of instructor. (3)h.]

## Political Science

**POL 301. Research Seminar in Politics and Policy.** Junior standing; POL 120, 190; at least one 300-level POL course; or consent of instructor. (3)s.

Development and completion of a research project on politics and public affairs. Critical reading and writing skills, constructing research problems and questions, the identification of relevant source materials, assessment of the analytic strategies and methods used in systematic research, and the development of appropriate research designs and strategies. Also listed as **PUB 301.**

**POL 309. The Political Environment of Public Administration.**

POL 120 or consent of instructor. (3)s.

Political components of modern public administration. Politics of federalism, bureaucracy, budgeting, planning, research, evaluation, and implementation. Viewing public administration as politics. Also listed as **PUB 309.**

**POL 494. Honors Research and Proposal Development.**

Acceptance into Honor Program in political science; consent of Honors Council or its designate; consent of Department chair. (3)s.

Designed for honors students to read discipline-based literature in the area in which they are pursuing their honors project and to design their honors project. Students work closely with one or more faculty members. Also listed as **HON 393.**

## Psychology

**PSY 201. Principles of Research Design.** PSY 100; ENG 112 with a grade of C (2.0) or better. (4).

Basic research methodology in the social sciences. Use of reference material, design of experiments, representation of data, and preparation of research papers. Conceptual understanding of the use of quantification and statistics.

**PSY 237. Introduction to Developmental Psychology.** PSY 100. (3)s.

Human development from the prenatal period through old age. Social-emotional, cognitive and physical aspects of development. Theory and current research applied to contemporary issues facing infants, children, youth and adults. Not applicable to a major or minor in psychology.

**PSY 345. Developmental Psychology.** PSY 100, 201; or consent of instructor. (3)s. Social-emotional, cognitive and physical aspects of development across the lifespan. Classic and current theory presented and debated, scientific and popular readings critiqued. Research methodology emphasized in assignments, including an interview to be conducted with at least two individuals at different levels of development. For students intending to complete psychology major or minor.

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**PSY 346. Advanced Topics in Developmental Psychology.** PSY 100, 201; consent of instructor. (1-3)s. Developmental theory and research on topics chosen by professor and/or students. (Past topics include father's role in child development, child abuse prevention, socialization of empathy and prosocial behavior.) Students review current scholarly articles and interview at least two individuals at different developmental levels. PSY 237 and 346 fulfill the developmental psychology requirement for psychology majors and minors. Open to PSY 345 students with consent of instructor.

**PSY 375. Health Psychology.** PSY 309 or 336, or consent of instructor. (3)s. Psychological influence on health, physical disease and disability, the medical environment, diagnosis and treatment, research problems and findings.

**PSY 394. Individual Research.** Consent of instructor. (1-5)s. Research study by qualified students under the supervision of the instructor. Problems may involve search of original literature, experimentation, and analysis of results. At least junior standing recommended. Graded ABCDE/Y.

**PSY 395. Cognitive Science Project.** PSY 201, 301, 335; a laboratory course in psychology; at least junior standing; or consent of instructor. (1-5)s. Research study in cognitive science by qualified students under supervision of the instructor. Problems may involve search of original literature, computer modeling, experimentation, and analysis of results. Graded ABCDE/Y.

**PSY 494. Research Project for Psychology Honors.** PSY 201, 301; consent of instructor; admission to the Psychology Honors Program; consent of Psychology honors program advisor. (3). Research project undertaken to prepare the student for the off-campus part of the Psychology Honors Program.

### Public Administration

**PUB 301. Research Seminar in Politics and Policy.** Junior standing; POL 120, 190; at least one 300-level POL course; or consent of instructor. (3)s. Development and completion of a research project on politics and public affairs. Critical reading and writing skills, constructing research problems and questions, the identification of relevant source materials, assessment of the analytic strategies and methods used in systematic research, and the development of appropriate research designs and strategies. Also listed as **POL 301**.

**PUB 309. The Political Environment of Public Administration.** A course in political science or consent of instructor. (3)s. Political components of modern public administration. Politics of federalism, bureaucracy, budgeting, planning, research, evaluation and implementation. Viewing public administration as politics. Also listed as **POL 309**.

**PUB 403. Evaluation of Services and Programs.** At least junior standing; and a course in statistics. (3)s. Formulation, implementation and evaluation of the programs of public agencies. Role and conduct of research in the program process; techniques of effective evaluation and report presentation. Also listed as **HCR 403**.

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**PUB 585. Applied Research Methods for Administrators.** Graduate standing. (3).

Introduction to the principles and practices of applied research for administrators. Topical coverage of both qualitative and quantitative data and analytic methods. Also listed as **EDL 670**.

### Sociology

**SOC 210. Introduction to Social Research.** SOC 100 or ANT/INT 100. (3)s.

Social research and techniques used in research. Elements of research design, measurement, sampling, interviewing, and use of computers in data analysis.

**SOC 323. Statistical Packages.** A course or approved background in probability or statistics; admission to the professional program in physical therapy or consent of instructor. (2).

Introduction to collection and interpretation of data utilizing computer technology. Value and utility of statistical tools and computer technology as a technical adjunct for critical inquiry and decision making in research and practice. Lecture and laboratory. Also listed as **BIO 323**.

**SOC 391. Directed Reading/Research in Sociology.** Consent of instructor and junior standing. (1-3).

Directed reading or research study by qualified students under instructor's supervision. By special arrangement only. Also listed as **ANT 391**. Graded ABCDE/Y.

**SOC 456. Power and Politics.** SOC 100 and senior standing, or consent of instructor. (3)s.

Issues, debates, and research constituting the sub-discipline of political sociology. General overview of such core concepts as power, interests, and the state; additional topics including processes of state formation in historical and comparative perspective, revolutions and peasant revolts, social movements, the problem of collective action, and the sociology of democratic politics.

**SOC 523. Statistical Packages.** A course or approved background in probability or statistics; admission to the professional program in physical therapy or consent of instructor. (2).

Introduction to collection and interpretation of data utilizing computer technology. Value and utility of statistical tools and computer technology as a technical adjunct for critical inquiry and decision making in research and practice. Graduate students will produce an integrative research paper utilizing statistical analyses and research methods. Lecture and laboratory.

### Theatre & Dance

**DAN 341. Musical Theatre Dance and Choreography.** (2).

Musical theatre dance styles and noted musical theatre choreographers. Attention to history of musical theatre dance from origins to contemporary forms. Experience in dance, research and demonstration. May be repeated once for credit. Also listed as **THE 341**.

**THE 204. Fundamentals of Debate and Forensics.** (3).

Theories, structure and skills of debate and forensics. Research, library and note-taking skills. Practice of competitive speaking skills and of research and oratorical skills as applied to National Competitive Intercollegiate Debate and Forensics. National debate topics and Michigan Intercollegiate Speech League activities. Students demonstrate abilities in classroom debates and in forensics activities. Also listed as **COM 204**.

**THE 341. Musical Theatre Dance and Choreography.** (2).

Musical theatre dance styles and noted musical theatre choreographers. Attention to history of musical theatre dance from origins to contemporary forms. Experience in dance, research and demonstration. May be repeated once for credit. Also listed as **DAN 341**.

## School of Education & Human Services

### Education

**EDU 480. Independent Study in Early Childhood Education.** Consent of instructor. (1-3).

Research, readings, or special projects tailored to academic needs and interests of the student in a topic related to early childhood education. May be re-elected to a maximum of four credits.

**EDE 470. (EDU 394). Honors Research Methods.** Open only to Honors Program students in elementary education. (1).

Individual tutorial course to help the student design, conduct, and analyze educational research appropriate to the honors thesis. Graded ABC>N.

**EDE 480. (EDU 391). Independent Study in Elementary Education.** Consent of instructor. (1-3).

Research, readings, or special projects tailored to academic needs and interests of the student. May be re-elected to a maximum of four credits. Graded ABCDE/Y.

**EDM 480. Independent Study in Mathematics for Elementary Education.** Consent of instructor. (1-4).

Research, readings or special projects tailored to academic needs and interests of the student. May be re-elected to a maximum of 4 credits. Graded ABCDE/Y.

**EDN 480. Independent Study in Special Education.** Consent of instructor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student in a topic related to the education of children with special needs. May be re-elected to a maximum of 4 credits.

**EDR 480. Independent Study in Reading and Language Arts.** Consent of instructor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student in a topic related to literacy education. May be re-elected to a maximum of 4 credits.

**EDS 361. (EDU 375). Community Building through Educational Involvement.** AFA 101 or ANT/INT 100 or SOC 100 or SWR 100; at least junior standing; or consent of instructor. (3).

Participation and observation in schools and community-based organizations, integrated with an interdisciplinary seminar on urban social issues and cultural variation. Skills required for various forms of community action; techniques including qualitative research methods, assessment, planning, intervention, and evaluation. Also listed as **AFA 375** and **SWR 361**.

**EDS 480. Independent Study in Secondary Education.** Consent of instructor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student in a topic related to secondary education. May be re-elected to a maximum of 4 credits.

**EDT 480. Independent Study in Technology Education.** Consent of instructor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student in a topic related to technology in education. May be re-elected to a maximum of 4 credits.

## Social Work

### **SWR 270. (SWK 250). Methods of Research and Evaluation.** SWR 100. (3)s.

Specific methodologies and procedures available for generation and analysis of information from the social and behavioral sciences. Provides the student with a foundation of research knowledge in three areas: methodology, data interpretation, and research writing. Graded ABCD>N.

### **SWK 361. (SWK 375). Community Building through Educational Involvement.** AFA 101 or ANT/INT 100 or SOC 100 or SWR 100; at least junior standing; or consent of instructor.

(3). Participation and observation in schools and community-based organizations, integrated with an interdisciplinary seminar on urban social issues and cultural variation. Skills required for various forms of community action; techniques include qualitative research methods, assessment, planning, intervention and evaluation. Also listed as **AFA 375** and **EDS 361**.

### **SWK 480. (SWK 391). Directed Reading/Research in Social Work.** Consent of instructor and junior standing. (1-3).

Directed reading or research study by qualified students under instructor's supervision. By special arrangement only.

### **SWK 580. Independent Study in Social Work.** Graduate standing; consent of instructor and advisor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student in a topic related to social work. May be re-elected to a maximum of 4 credits.

## School of Health Professions & Studies

### Health Care

### **HCR 379. Introduction to Health Education and Health Promotion.** At least sophomore standing. (3).

Introduction to the field of health education. Includes the history, mission, and breadth of health education as both an academic discipline and a profession; outlines professional ethical responsibilities; and describes practice settings. Explores concepts of health, wellness, health promotion, and health education. Exposure to a broad range of content specific topics in health education including: maternal and child health, aging, management of chronic disease, end of life, and women's health. Introduction to health education research methods. Also aims to increase student self-awareness of how culture and biases influence their professional practice.

### **HCR 385. Health Care Program Evaluation.** HCR 300 and at least junior standing. (3).

Developing a frame of reference for research and evaluation of health care programs. Research and evaluation methods, including setting objectives, measurement of attitudes, and presenting evaluation reports.

### **HCR 388. Directed Studies. Consent of instructor.** (1-3).

Research on a specific problem in health care. Graded Pass/Fail/Y.

### **HCR 403. Evaluation of Services and Programs.** At least junior standing and a course in statistics. (3)s.

Formulation, implementation and evaluation of the programs of public agencies. Role and conduct of research in the program process; techniques of effective evaluation and report presentation. Also listed as **PUB 403**.

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**HCR 506. Research Methods.** Graduate standing. (3).

Research designs and evaluative models used in health and public administration studies. Special emphasis on developing skills in research analysis and problem identification (research question development). Also listed as **PUB 506**.

**HCR 508. Evaluation of Services and Programs.** Graduate standing, a course in statistics. (3).

See HCR 403 for description. Not open to students with credit for HCR/PUB 403. Also listed as **PUB 508**.

**HCA 588. Independent Study in Health Care.** Consent of instructor. Open only to students in Health Care Administration MPA or other graduate level health care programs. (1-3).

Directed reading or research on a topic relevant to health care/health care administration, under instructor's supervision, by special arrangement only. Graded ABCDE/Y.

**HCA 593. Practicum in Research Design.** Graduate standing and completion of 18 hours in the MPA program. (3).

Development of a research design for the Practicum in Applied Research project, working with the instructor and project readers. Also listed as PUB 593. Graded ABCDE/Y.

**HCA 595. Practicum in Applied Research.** PUB 539 or 593. (3).

Implementation of the research design developed in HCR 593. Research conducted in close consultation with a faculty advisor and results presented in a substantial paper demonstrating integration of important topics of public administration. Also listed as PUB 595. Graded ABCDE/Y.

### Medical Technology

**MTP 390. Independent Research.** Consent of instructor. (1-4).

Individual work for qualified students under the supervision of the instructor. Problems may involve search of original literature, experimentation, and analysis of results. Graded ABCDE/Y.

### Nursing

**NUR 308. Research in Nursing.** Open to all University students. (3).

An introductory level course to provide students with knowledge and skills to understand and participate in nursing research. There is an emphasis on the components of the research process that is enriched by including an array of nursing studies. Students review and participate in critical reading, evaluating, and interpreting research studies. They begin to explore ways to incorporate research-based knowledge into practice by learning about research-utilization and evidence-based practice models.

**NUR 494. Independent Research Plan Development.** Consent of Department Chair. Open only to Department of Nursing Honors Program students. (3).

An area of nursing to explore in NUR 495 and 496 honors courses is defined and validated through a literature search. A thesis and detailed plan of how that topic will be explored is prepared for review by the Honors Program Council. This plan will include a time schedule, budget, and terminal outcomes. This approved body of work becomes the basis for NUR 495 and 496. Graded ABCDE/Y.

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**NUR 495. Honors Thesis I.** Permission of the Honors Council or its designate. Consent of Department Chair. Open only to Department of Nursing Honors Program students. (4).  
An off-campus opportunity to independently carry out approved activities outlined in the NUR 494 plan in one or more areas of nursing research, education and administration. Summer between Junior and Senior Year. Graded ABCDE/Y.

**NUR 499. Independent Study in Nursing.** Basic BSN Program; RN/BSN Program, completion of 200-level nursing courses and consent of instructor. (1-4).  
Under the guidance and with the approval of a selected faculty member, student develops behavioral objectives appropriate to the topic being studied and a plan of action to achieve objectives. May be based on experience, directed reading, study or research. May not be used as a substitute for required courses, but may be used to fulfill nursing elective requirements. Graded ABCDE/Y.

## School of Management

**MGT 332. Marketing Research.** BUS 181, 211, 330 and their prerequisites. (3).  
Methods of determining organizational requirements for information, and for reducing available data to develop needed additional information. Use of computer to perform hands-on data analysis required.

**MGT 391. Directed Research in Business.** At least junior standing; consent of instructor. (1-3).  
Independent study elected in management science, accounting, marketing, organizational behavior or industrial relations, business environment, finance, operations management, international business, or general business administration. Research project, jointly designed by the student and an appropriate instructor and submitted in writing; approval required before registration. Supervised by the instructor until completion. Only larger projects are approved for two or three hours of credit. A maximum of three hours of directed research in business can be used to meet graduation requirements. Graded ABCDE/Y.

**MGT 413. Statistical Methods and Business Applications.** BUS 313 and its prerequisites; ECN 201, 202. (3).  
General multivariate techniques such as multiple regression, multivariate analysis of variance, factor analysis, discriminant analysis, principal components; business research methods such as sample survey, questionnaire construction and analysis. May include time series forecasting and/or statistical quality control.

## Graduate Programs & Courses

### College of Arts & Sciences

#### Biology

**MS BIO 596. Seminar.** Admission to the graduate program in biology. (1).  
Presentations by UM-Flint or visiting faculty and by graduate students on proposed, ongoing, or completed research. Presentations may be focused on a limited area of biological science. Lecture and discussion.

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**MS BIO 597. Non-Thesis Research.** Admission to the graduate program in biology; consent of instructor. (1-2).

Independent study for graduate students in Plan B option (2 credits required). Graded ABCDE/Y.

**MS BIO 599. Thesis Research.** Admission to the graduate program in biology, consent of instructor. (1-5).

Independent study for graduate students in Plan A option (5 credits required). Graded ABCDE/Y.

### Computer Information Systems

**MS CIS 591. Independent Graduate Study in Information Systems.**

Consent of instructor. (3).

Independent work with guidance by faculty advisor of choice on a research project related to an Information Systems problem.

**MS CIS 595. Master's Thesis I.** Consent of instructor. (3).

Advanced topics of particular interest to the student chosen in cooperation with the thesis advisor. Directed research under supervision of advisor, thesis document preparation, preparation for oral defense. Graded Pass/Fail/Y.

**MS CIS 596. Master's Thesis II.** Consent of instructor. (3).

Continuation of thesis research. Graded Pass/Fail/Y.

### Computer Science

**MS CSC 591. Independent Graduate Study in Computer Science.** Consent of instructor. (3).

Independent work with guidance by faculty advisor of choice on a research project related to an Information Systems problem.

**MS CSC 595. Master's Thesis I.** Consent of instructor. (3).

Advanced topics of particular interest to the student chosen in cooperation with the thesis advisor. Directed research under supervision of advisor, thesis document preparation, preparation for oral defense. Graded Pass/Fail/Y.

**MS CSC 596. Master's Thesis II.** Consent of instructor. (3).

Continuation of thesis research. Graded Pass/Fail/Y.

### English

**MS ENG 500. English Studies: Issues and Methods.** Graduate standing.

(3).  
Intensive study of the professional practice of research and scholarly inquiry in literary studies, linguistics, and composition and rhetoric. Required of all candidates for the Master of Arts in English degree. Graded ABCDE/Y.

**MS ENG 591. Individual Study Experience.** Graduate standing. (3-6).

Individually-defined study developed in consultation with the English Department. May include area reading and examination, primary research project, thesis, study program at a foreign or accredited U.S. graduate program, archival research project, creative writing project or professional internship. May be repeated to a total of 12 credits. Graded ABCDE/Y.

## 2007-2009 Course Catalog entries with a Research Component

### American Culture

**AMC 500. Research Foundations.** Graduate standing. (3).

Instruction in research methods and sources in American culture. Introduction to key reference works, literature reviews, print and digital primary and secondary sources; journal literature, protocols and ethics in use of human subjects. Guest speakers from various disciplines share research expertise.

**AMC 590. Directed Study.** Graduate standing and consent of instructor. (1-3).

Directed interdisciplinary reading, research or writing in a topic important to American thought and culture such as race, gender, equality, politics, religion. Up to three hours total credit. Graded ABCDE/Y.

**AMC 591. Thesis.** Graduate standing and consent of instructor. (3).

Research, to be done under the supervision of a member of the program faculty. The research prospectus and the final paper must be submitted to both the supervisor and at least one other faculty member for approval. Graded ABCDE/Y.

**AMC 599. Cross-Cultural Research.** Graduate standing and consent of instructor. (1-3).

May be taken in conjunction with a university study abroad program, with approved faculty supervision.

### Public Administration

**MPA 506. Research Methods.** Graduate standing. (3).

Research designs and evaluative models used in health and public administration studies. Special emphasis on developing skills in research analysis and problem identification (research question development). Also listed as **HCR 506**.

**MPA 508. Evaluation of Services and Programs.** Graduate standing, a course in statistics. (3).

Formulation, implementation and evaluation of the programs of public agencies. Role and conduct of research in the program process; techniques of effective evaluation and report presentation. Not open to students with credit for HCR/PUB 403. Also listed as **HCR 508**.

**MPA 585. Applied Research Methods for Administrators.** Graduate standing. (3).

Introduction to the principles and practices of applied research for administrators. Topical coverage of both qualitative and quantitative data and analytic methods. Also listed as **EDL 670**.

**MPA 589. Independent Study in Public Administration.** Consent of instructor. (1-3).

Directed reading or research in a topic relevant to public administration.

**MPA 593. Practicum in Research Design.** Graduate standing. Open only to students who have completed at least 18 hours in the MPA program. (3).

Development of a research design for the Practicum in Applied Research project, working with the instructor and project readers. Also listed as **HCR 593**. Graded ABCDE/Y.

**MPA 595. Practicum in Applied Research.** PUB 539 or 593. (3).

Implementation of the research design developed in PUB 593. Research conducted in close consultation with a faculty advisor and results presented in a substantial paper demonstrating integration of important topics of public administration. Also listed as **HCR 595**. Graded ABCDE/Y.

## School of Education & Human Services

### Early Childhood Education

#### **MS ECE 580. Independent Study in Early Childhood Education.**

Graduate standing, consent of instructor and advisor. (1-3).

Research, readings, or special projects tailored to academic needs and interests of the student, on a topic related to early childhood education. Students should consult with advisor about applying credits to an MA in Education specialization. May be repeated to a maximum of 4 credits.

### Elementary Education

**MS EDE580. (EDU 599). Independent Study in Elementary Education.** Graduate standing; consent of instructor. (1- 3).

Research, readings, or special projects tailored to academic needs and interests of the student, on a topic related to elementary education. Students should consult with advisor about applying credits to an MA in Education specialization. May be repeated to a maximum of 4 credits. Graded ABCDE/Y.

**MS EDE 670. (EDU 561). Research Seminar.** Graduate standing; a course from specialization strand. (3).

Seminar providing support for professional development and evaluation and execution of research.

**MS EDE 698. (EDU 560). Master's Project.** Graduate standing; at least 24 credit hours in specialization. (3).

Research, conducted under the supervision of a member of the graduate education faculty, that investigates an issue, problem, or approach in the student's field of study. Graded ABCDE/Y.

### Education Leadership

**MS EDL 580. Independent Study in Educational Leadership.** Graduate standing, consent of instructor and advisor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student in a topic related to educational leadership. Students should consult with advisor about applying credits to an MA in Education specialization. May be repeated to a maximum of 4 credits.

**MS EDL 670. (EDU 585). Applied Research Methods for Administrators.** Graduate standing. (3).

Introduction to the principles and practices of applied research for administrators. Topical coverage of both qualitative and quantitative data and analytic methods. Also listed as **PUB 585 & MPA 585**.

### Education of Students with Special Needs

**MS EDN 544. (EDU 533). Assistive Technology for Students with Special Needs.** Prior or concurrent election of EDN 500 or EDN 501. (3).

Introduction to appropriate technology and assistive devices for supporting students with special needs. Assessment of individual needs and the appropriate accommodations, adaptations, and use of technology. Recent technological innovations examined in light of research and legislations about special needs learners. Also listed as **EDT 544**.

**MS EDN 580. Independent Study in Special Education.** Graduate standing, consent of instructor and advisor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student, on a topic related to the education of children with special needs. Students should consult with advisor about applying credits to an MA in Education specialization. May be repeated to a maximum of 4 credits.

**MS EDN 600. (EDU 600). Comprehensive Overview of Learning Disabilities.** EDN 500, 501, 502, 540, 541. (3).

Comprehensive overview of children, adolescents and adults with learning disabilities. Current research on identification, definitions, characteristics of specific learning disabilities, etiology, prevalence, ways to support individuals and their families. Observations required.

**MS EDN 640. (EDU 601). Program Planning, Curriculum and Instructional Strategies for Students with Learning Disabilities.** Graduate standing; prior or concurrent election of EDN 600, EDR 645. (3). Focus on best research based practices involving assessment, IEP planning and methods for specific learning disabilities will be applied in a range of settings. Methods of instruction will involve information-processing, cognitive-developmental, and behavioral approaches including adaptive and assistive technology, academic and curricular modifications, self determination, transition planning, and community and family supports. In addition, the teacher will learn to apply the skills and roles as a multi-disciplinary team member.

**MS EDN 641. (EDU 603). Program Planning, Curriculum and Instructional Strategies for Students with Cognitive Impairments.** Graduate standing; prior or concurrent election of EDN 601, EDR 645. (3). Focus on best research-based practices involving assessment, IEP planning and methods for specific cognitive impairments applied in a range of settings. Information-processing, cognitive-developmental, and behavioral approaches; including adaptive and assistive technology, academic and curricular modifications, self-determination, transition planning, and community and family supports. Teachers learn to apply skills and roles as a multi-disciplinary team member.

#### Reading & Language Arts

**MS EDR 580. Independent Study in Reading and Language Arts.** Graduate standing, consent of instructor and advisor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student, on a topic related to literacy education. Students should consult with advisor about applying credits to an MA in Education specialization. May be repeated to a maximum of 4 credits.

#### Secondary Education

**MS EDS 580. Independent Study in Secondary Education.** Graduate standing, consent of instructor and advisor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student, on a topic related to secondary education. Students should consult with advisor about applying credits to an MA in Education specialization. May be repeated to a maximum of 4 credits.

#### Technology Education

**MS EDT 544. (EDU 533). Assistive Technology for Students with Special Needs.** Prior or concurrent election of EDN 500, EDN 501. (3).

Introduction to appropriate technology and assistive devices for supporting students with special needs. Assessment of individual needs and the appropriate accommodations, adaptations, and use of technology. Recent technological innovations examined in light of research and legislations about special needs learners. Also listed as **EDN 544.**

**MS EDT 580. Independent Study in Technology Education.** Graduate standing, consent of instructor and advisor. (1-3).

Research, readings or special projects tailored to academic needs and interests of the student in a topic related to technology in education. Students should consult with advisor about applying credits to an MA in Education specialization. May be repeated to a maximum of 4 credits.

## School of Health Professions & Studies

### Anesthesia

**MS ANE 560. Introduction to Research.** Admission to the graduate program in anesthesia. (2).

Basic components of research process. Steps in developing a research project. Critical review of research studies. Formation of research questions and hypotheses, literature review and methodology. Exploratory studies, construction and analysis of experiments and other research designs; fundamental statistical concepts for health care research.

### Health Education

**MS HED 588. Directed Studies in Health Education.** (1-3).

Directed reading or research on a topic relevant to health care/health education, under instructor's supervision. By special arrangement only. Graded ABCDE/Y.

**MS HED 594. Thesis Preparation Seminar.** HED 540, 541, 542, 543, 545; HCR 544 or 546. (1).

Overview of the research process, designed to help students develop realistic timelines, enhance information about the process, and prompt students to use their class work to prepare for the thesis.

**MS HED 595. Thesis.** Graduate standing, HED 594, and consent of instructor. (3).

Research, to be done under the supervision of a member of the program faculty. The research prospectus and the final paper must be submitted to both the supervisor and at least one other faculty member for approval. Graded Pass/Fail/Y.

### Nursing

**MS NUR 595. Nursing Research/Theory I.** (1).

Introduction to structure and function of extant theories of nursing as a basis for conceptual framework for nursing. Emphasis on nursing science as foundation for integrating nursing theory, practice and research. Focus on understanding elements of nursing theory, analyzing nursing theories and implementing a specific theory into the research process. Qualitative and quantitative research methods explored. Steps of the research process implemented throughout the curriculum culminating in a completed master's thesis. Graded ABCDE/Y.

**MS NUR 596. Nursing Research/Theory II.** (1).

NUR 596 builds upon NUR 595 and is the second of five consecutive research/theory courses. NUR 596 continues to emphasize nursing science as the foundation for integrating nursing theory, practice and research. The focus is on research design; internal and external validity; sampling design; procedures; data collection; reliability and validity of measures and ethical issues with human subjects. Graded ABCDE/Y.

**MS NUR 597. Nursing Research/Theory III. (1).**

NUR 597 is a continuation of the steps in the research process that includes emphasis on nursing science as a foundation for integrating nursing theory, practice, and research. The course builds on a basic statistics prerequisite and provides an introduction of strategies involved in data analysis, including statistical procedures and interpretation of data for nursing research. Students will apply knowledge of selected descriptive, parametric, and non-parametric approaches to data analysis. Emphasis will be on interpretation of statistical results and on evaluation of published research and its applicability to clinical practice. Computers will be used for introduction to data analysis. Graded ABCDE/Y.

**MS NUR 598. Nursing Research/Theory IV. (1).**

NUR 598 builds upon NUR597 and is the fourth of five consecutive research/theory courses. This course is a continuation of the steps in the research process that includes emphasis on nursing science as a foundation for integrating nursing theory, practice, and research. The content and organization of this course reflects the scientific publishing tradition for the last two chapters of a thesis. The focus is on report writing for results and discussion sections of the student's thesis. Graded ABCDE/Y.

**MS NUR 599. Nursing Research/Theory V. (1).**

NUR 599 is the fifth of the five-theory/research courses and builds upon NUR 598. This course is the culmination of the steps in the research process that includes emphasis on nursing science as a foundation for integrating nursing theory, practice and research. The content and organization of this course reflects the last two chapters of the master's thesis, the integration of the thesis chapters and dissemination of findings. Graded ABCDE/Y.

**MS NUR 600. Independent Study in Graduate Nursing.** Graduate Nursing Students only. (1-4).

Under guidance and with approval of a faculty member, student develops behavioral objectives appropriate to a topic of study and a plan of action to achieve objectives. May include clinical experience and/or directed reading, study or research. May not be used as a substitute for required courses. Graded Pass/Fail/Y.

**Physical Therapy**

**MS PTP 502. Independent Research.** Matriculation towards advanced degree in physical therapy or related field. (2-10).

Individually negotiated experiences related to the development of new knowledge in the field of physical therapy. By arrangement.

**MS PTP 560. Research Methods.** Admission to the professional program in physical therapy. (3).

Introduction to principles of clinical research methods. Emphasis is on database and statistical applications with computerized statistical package SPSS, for clinical research and provides the foundation for subsequent clinical inquiry project.

**MS PTP 562. Scholarly Activity Practicum I.** Admission to the professional or post-professional program in physical therapy. (2-5).

Supervised experience in designing and conducting a pilot study consistent with research design. Builds on previous research courses. Graded ABCDE/Y.

**MS PTP 563. Scholarly Activity Practicum II.** Admission to the professional or post-professional program in physical therapy. (2-5).

Continuation of Research Practicum I. Includes completion of a research project, preparation and submission of a publication of manuscript quality, and public presentation of the project. Graded ABCDE/Y.

**MS PTP 761. Evidence-Based Practice.** Admission to DPT program or consent of instructor. (1).

Development of case reports within the four practice patterns in the "Guide," based on patient's clinical and physical circumstances, best research evidence, patient's preferences, and clinical expertise.

## School of Management

**MGT 591. Applied Research Project.** Third year of program; selection and agreement of advisor. (3).

Independent work with guidance by a faculty advisor of choice on an applied research project demonstrating command of material, ability to relate material to a real problem, and including analysis and conclusions. In-depth study of a management problem; the student is encouraged to choose a job-related topic whose solution will benefit student's employer and career. Graded ABCDE/Y.

## Campus Wide Programs

### Honors program

#### Project Proposal: The Research Methods Course

During their junior year, students enroll in a 300-level Independent Study/Research Methods course (HON 393 or the equivalent in their concentration). This course is designed for the development of the Off-Campus Study Proposal. In order to complete this course satisfactorily, students should:

- work one-on-one with their departmental Honors Advisor to develop a project.
- conduct individual research to find several potential sites for the Off-Campus Study Experience.
- consult the Honors Director concerning required format of the proposal.
- submit the proposal and a budget estimating expenses for the Off-Campus Study Experience to the advisor for approval.
- submit the proposal to the Honors Director who in turn submits it to the Honors Council for approval.

Funds are released and credit for HON 393 (or the equivalent) is given only after the completed proposal has been approved by the Honors Council.

#### Project Development: Honors Thesis I

In conjunction with their Off-Campus Study Experience students enroll in HON 495 (or the equivalent in the concentration), an independent study course which provides four credits for the Off-Campus Study Experience. To allow for flexibility in scheduling, the student may enroll in HON 495 or its equivalent before, during or after the Off-Campus Study Experience. The student may arrange for additional credits in one or more of the following ways:

- Arrangements may be made for credits to be transferred from a summer course or study program, if applicable.
- The student may undertake an additional independent study course, such as HON 393, with the approval of the Honors advisor and the Honors Director.

## 2007-2009 Course Catalog entries with a Research Component

The student receives no credit and no final grade for HON 495 (or its equivalent) until the Honors Thesis (HON 496 or the equivalent) is satisfactorily completed. Until that time, the student receives a grade, designed for work in progress.

### **Project Production: HON 496**

Following the Off-Campus Study Experience, the Honors student completes a Senior Thesis or creative project under the supervision of the Honors Advisor. The Honors Thesis or project is designed to provide expertise in the student's discipline and further enrichment of the student's curriculum. The Honors Thesis is generally a research paper ranging in length from 35 to 60 pages. The paper should be well written, carefully documented and organized.

A creative project also could meet the requirements of the senior project. The production, performance or creative work should be fashioned according to the requirements of the student's specific area of study, and must be deemed appropriate by agreement of the Honors Advisor, the Honors Director and the Honors Council. Examples include:

- the writing and directing of a play
- the production of a film
- the creation of a piece of music or art

The Honors Thesis or project may represent original research or a new finding in the field or may be an original creative work. It may also result in conference presentations and publications in scholarly journals. However, originality in the form of new findings in the field is not required for the completion of a satisfactory thesis, nor is publication or presentation at a conference.

**HON 393. Independent Study and Research Methods.** Acceptance into the Honors Program; consent of Honors Director. (1-3).

Also listed as departmental credit in schools and departments offering an honors concentration. May be reelected for a total of 6 credits. Graded ABCDE/Y. Also listed as **POL 494**.

**INT 395. Directed Research in Study Abroad.** Enrollment in StudyAbroad Program, consent of instructor. (3).

Study abroad directed research course open to all UM-Flint Students. Graded ABCD>N.

**INT 415. Seminar on Contemporary Global Issues.** SOC/ANT 302 or 303 or senior standing; consent of instructor. (3)s.

Issue-based course linking recent social theory, empirical research, and predicaments of public policy within a comprehensive global framework. Focus on globalization and issues of social and political importance central to recent debates within and outside the academy. Multi-disciplinary approach, materials drawn from the U.S., Europe, and developing world that highlight recent global socio-economic transformations. Designed to serve students majoring in a number of different fields, especially those engaged in specific research projects and/or preparing for graduate school. Also listed as **ANT 415**.