BALL STATE UNIVERSITY

ACADEMIC POSTING
2010 - 2011

VOLUME XLII - 1 September 24, 2010

This posting may contain all or part of the following: new, revised, and dropped programs, courses and prefixes. The posting period begins September 27, 2010. If no demurrer is received within ten school days, the changes will be certified for implementation. *The effective date for implementing undergraduate materials posted after March 24, 2010 is Fall Semester 2011.Graduate materials posted after January 27, 2009 have an implementation date of Fall Semester 2011.*

University Core Curriculum

Revised:

Rename: Writing Competency Examination
To: Writing Proficiency Program

College of Applied Sciences and Technology

DEPARTMENT OF FAMILY AND CONSUMER SCIENCES

Revised:

MAJOR IN PRE-DIETETICS/DIETETICS, 94 hours

The Department of Family and Consumer Sciences offers a baccalaureate degree in dietetics that meets the academic requirements of the American Dietetics Association (ADA). Students admitted to the dietetic program will have completed two years of high school algebra or MATHS 108. All dietetic students are directed to take the following University Core Curriculum courses as program requirements: BIO 111, CHEM 111, PSYSC 100.

Admission Criteria
Students interested in the Dietetics program at Ball State University can begin their academic career as a pre-dietetics major. Once the following minimum requirements have been met, the students may apply for admission into the undergraduate dietetics program. The application packet is due on the second Tuesday in February, the same date as the dietetic internship applications.

Minimum requirements for admission include:
- Complete FCSFN 275 with *B* (3.0) or better, and
- Complete the following courses with *C* (2.0) or better: ANAT 201; BIO 111; CHEM 111, 112, 231, 360; and PHYSL 215, and
- Cumulative undergraduate GPA of 3.0 or higher.

Admissions process:
- All students interested in applying to the dietetics program at Ball State University must submit a completed application form, all transcripts (non-BSU transfer students), and a letter of intent to the DPD Director by the second Tuesday in February. The letter should state the student's interest in the profession, including his or her short and long-term goals, and a brief description of any involvement in extracurricular activities, volunteer experiences, and work history.
- The applications will be due on the second Tuesday in February, the same date as the dietetic internship applications. The application form will be available on the FCS Web site (*www.bsu.edu/fcs*). Search for "dietetics program application form."
- Most students will have **not** completed all required courses before the application materials are due (e.g., Biochemistry); nonetheless, students should apply for the program if they ANTICIPATE having completed all required courses by the fall semester of the year in which they enroll in FCSFN 345. If all other criteria are met, the committee will accept students into the program on a *conditional* basis.
- The admissions committee will notify the applicant of their decision by mid-March in time for students to enroll for their fall classes. Candidates conditionally accepted into the program should enroll for courses as if they have been accepted; if the candidate does not meet the acceptance criteria, they will be asked to

drop FCSFN 345 until all admission criteria have all been met.

- Once the conditionally-accepted student has completed all required courses, it is the student's responsibility to request the Dietetics Program Director remove him/her from conditional status.
- Once it has been verified that all requirements have been met, the Program Director will send formal notification of acceptance to the Dietetics Program to each student.
- Students will **not** be allowed to take any required advanced nutrition classes (e.g., FCSFN 345, 346, 390, 400, 446, 447, 455, 456) until they have been officially accepted into the dietetics program.
- Students will be allowed to repeat any class that is keeping them from meeting the established eligibility requirements **one time**. No student will be allowed to enroll in the advanced nutrition classes until any class in question has been completed successfully.

FAMILY AND CONSUMER SCIENCES (FCS)

Revised:

FCS 369. Internship in Family and Consumer Sciences. (3.0 TO 6.0) Provides the opportunity for the student to work in established internship setting to gain professional experience in one's specific area of study. *Prerequisite:* Apparel Design: FCSFA 303 or 401; MKG 300; permission of the department chairperson; Child Development: FCSFC 465; permission of the department chairperson; Child Life Specialist: FCSFC 100, 250, 265, 275, 465; BIO 254; EDPSY 351; NUR 101, 103; permission of the department chairperson; Family Studies: FCSFC 250; permission of the department chairperson; Fashion Merchandising: FCSFA 345, 388; MKG 300; permission of the department chairperson; General: FCSFC 393; FCSFN 310; permission of the department chairperson; Hospitality and Food Management: FCSFN 400 or FCSFN 250, 310, and 476, documented experience of at least 500 hours of appropriate hospitality or food service experience; permission of the department chairperson; Interior Design: FCSID 324; permission of the department chairperson; Residential Property Management: FCSPM 275, 305; FCSFN 310; ACC 201; permission of the department chairperson. A total of 12 hours of credit may be earned, but no more than 6 in any one semester or term. Open only to departmental majors or hospitality minors with appropriate prerequisites.

FAMILY AND CONSUMER SCIENCES: FAMILY AND CHILD (FCSFC)

Revised:

FCSFC 250. Family Relations. (3.0) Focuses on family dynamics and interaction across a variety of family structures and backgrounds. Explores the impact of larger social systems on the family, changing concepts of family, and family processes throughout the life cycle. Emphasizes healthy interaction patterns and skills to strengthen family relationships.

DEPARTMENT OF TECHNOLOGY

Revised:

MINOR IN BUSINESS ADMINISTRATION, 18 hours

Open only to Department of Technology majors except construction management majors (see business minor for construction technology majors).

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
ISOM	125	Micro App	3
	251	Intr Opr Mgt	3
MGT	200	Mngnt Prin (3)	
	or		
	300	Mgt Beh Org (3)	3
MKG	300	Prin Market (3)	
	or		
ISOM	300	Proj Mgt (3)	3
6 hours from			
ACC	201	Prin Acct 1 (3)	
ISOM	135	Bus I S (3)	
	226	Sys Ap Dev (3)	
	430	ERP Ap & Pro (3)	
MGT	261	Persnel Supr (3)	
	341	Intro Entr (3)	
MKG	310	Consmr Behav (3)	
	320	Advertsg Mgt (3)	
	325	Prof Selling (3)	
	460	Sup Chn Mgt (3)	6
			18 hrs

ISOM 135 requires demonstrated proficiency in computer skills through examination, credit in ISOM 125 or CS 104. MGT 300 and MKG 300 require junior standing (63 hours). MKG 300 requires credit in ECON 116 or 201.

Miller College of Business

New:

CERTIFICATE IN COMMUNITY AND ECONOMIC DEVELOPMENT

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
ECON	545	Gov Budgets	3
	612	St/Loc Ec Dev	3
MGT	697	Indpen Study (1-6)	3
Electives, 3 hours from			
ECON	585	Urban Econ (3)	
MGT	500	Mng Org Beh (3)	
MKG	655	Bus Res (3)	3
			12 hrs

Revised:

MAJOR IN BUSINESS ADMINISTRATION, 66 hours

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
Miller College of Business core, 39 hours			
ACC	201	Prin Acct 1	3
	202	Prin Acct 2	3
BL	260	Prin Bus Law	3
ECON	201	Elem Micro	3
	202	Elem Macro	3
	221	Bus Stats	3
FIN	300	Prin Fin 1	3
ISOM	135	Bus I S	3
	249	Fnds Bus Com	3
	351	Op Mgt	3
MGT	300	Mgt Beh Org	3
	491	Policy Strat	3
MKG	300	Prin Market	3
			39 hrs
Finance, 6 hours from			
FIN	445	Fin Stmt	3
RMI	270	Prin R M I	3
Marketing, 6 hours			
MKG	310	Consmr Behav	3
3 hours from			
ECON	301	Intrmd Micro (3)	
MKG	320	Advertsg Mgt (3)	
	325	Prof Selling (3)	
	345	Pro Sup Mgt (3)	
	400	Product Mgt (3)	
	410	Mkg Channels (3)	3
Information Systems and Operations Management, 6 hours from			
ISOM	300	Proj Mgt (3)	
	430	ERP Ap & Pro (3)	
	452	Inv Mgt (3)	
	453	Manu Pln (3)	
	454	Sply Chn Mgt (3)	6
Management and Human Resources, 6 hours from			
MGT	341	Intro Entr (3)	
	361	Mgt Hman Res (3)	
	363	Empl Dev (3)	
	461	Compen Admin (3)	
	465	Hum Res Pln (3)	
BUSAD	369	Internship (3)	
ECON	331	Labor Econ (3)	
RMI	330	Emp Benefits (3)	6
Can only take 3 hours of BUSAD 369.			
International, 3 hours from			
ECON	351	Internat Eco (3)	
FIN	352	Global Fin (3)	
INTBA	265	Internat Bus (3)	
MGT	301	Intrnatl Mgt (3)	
MKG	470	Internationl (3)	3
			66 hrs

It is possible for a student, in consultation with a faculty advisor, to design an individual program to meet specific academic interests. This program will be designated as a Business Administration major.

To pursue this program, students must have sufficient mathematical preparation to meet the prerequisite for ECON 221. The prerequisite for ECON 221 is a *C* or better grade in MATHS 136 or the equivalent; sophomore standing; demonstrated proficiency in computer skills. MATHS 136 simultaneously substitutes for the University Core Curriculum math requirement. Proficiency in computer skills may be demonstrated by examination, or credit in ISOM 125 or CS 104 or its equivalent. The prerequisite for ISOM 135 is proficiency test required or ISOM 125 or CS 104.

DEPARTMENT OF INFORMATION SYSTEMS AND OPERATIONS MANAGEMENT

Revised:

TEACHING MAJOR IN BUSINESS AND MARKETING EDUCATION, 54 hours

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
Miller College of Business core, 39 hours			
ACC	201	Prin Acct 1	3
	202	Prin Acct 2	3
BL	260	Prin Bus Law	3
ECON	201	Elem Micro	3
	202	Elem Macro	3
	221	Bus Stats	3
FIN	300	Prin Fin 1	3
ISOM	135	Bus I S	3
	249	Fnds Bus Com	3
	351	Op Mgt	3
MGT	300	Mgt Beh Org	3
	491	Policy Strat	3
MKG	300	Prin Market	3
			39 hrs
ISOM	112	Doc Process	3
	125	Micro App	3
	340	Mlti-Web Bus	3
FIN	110	Pers Finance	3
BED	387	Teach Bus	3
			15 hrs
			54 hrs

To pursue this program, students must have sufficient mathematical preparation to meet the prerequisite for ECON 221. The prerequisite for ECON 221 is a *C* or better grade in MATHS 136 or equivalent; sophomore standing; and demonstrated proficiency in computer skills. MATHS 136 simultaneously substitutes for the University Core Curriculum math requirement. Proficiency in computer skills may be demonstrated by examination, or credit in ISOM 125 or CS 104 or its equivalent. The prerequisite for ISOM 135 is proficiency test required or ISOM 125 or CS 104.

College of Communication, Information, and Media

INTERDEPARTMENTAL

ICOMMUNICATION (ICOM)

New:

ICOM 210. Introduction to Social Media. (3.0) An examination of social media technologies and applications of emerging technologies on various careers aimed at students of all skill levels. Students will build their own Web sites using existing tools, engage in social and mobile networks, and deploy a variety of social media applications using pre-existing software tools. Prerequisite: ICOM 101 with a grade of *C* (2.0) or better. Open only to digital media minor students.

ICOM 299X. Experimental/Development Topics. (3.0) Topics relevant to the discipline. Course titles to be announced before each semester. Prerequisite: ICOM 101 with a grade of *C* (2.0) or better. Open only to digital media minor students.

ICOM 390. Independent Studies in Digital Media. (3.0) Academic or creative digital media project directed by a Ball State faculty member. Written proposal must be approved by the Digital Media Minor program director prior to term of study. Prerequisite: permission of the program director. Open only to digital media minor students.

Revised:

ICOM 201. Digital Web Design and Usability. (3.0) Conceptual introduction to design and critique of digital messages in terms of source objectives, audiences, and society effects. Specific emphasis on theories and evaluations of usability testing of Web sites. Prerequisite: ICOM 101 with a grade of *C* (2.0) or better. Open only to digital media minor students.

College of Fine Arts

SCHOOL OF MUSIC

Revised:

MAJOR IN MUSIC MEDIA PRODUCTION AND INDUSTRY, BS, 84 hours

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
MUSTH	101	Sight Ear	1
	102	Sight Ear	1
	111	Music Theory	2
	112	Music Theory	2
	201	Sight Ear	1
	202	Sight Ear	1
	211	Music Theory	2
	212	Music Theory	2
	311	Form Analys	2
	411	Instr Orchra	2

MUHIS	200	Music Lit	2
	330	Music Histry	3
	331	Music Histry	3
MMPI	100	Mus Industry	3
	125	Acoustics	3
	220	Int Elec Stu	2
	235	Rec Tech 1	3
	236	Rec Tech 2	3
	301	Songwriting 1	2
	302	Songwriting 2	2
	330	Record Wkshp (1-2)	2
	335	Mixing	3
	430	Prod Workshp	3
	495	MET Prj/Rec	3
MUSCH	499	Recital	1

Complete the following
2 hours from

MUSPE	325	Sec Piano (1)	
	or		
	326	Group Piano (1)	2

8 hours from
MUSPE applied principal 8

7 hours from
MUSCH and MUSPE ensembles 7

13 hours from guided specialization directed electives from MMPI, MUSTH, MKG, ACC, MGT, and/or ICOM 13

84 hrs

MUSIC MEDIA PRODUCTION AND INDUSTRY (MMPI)

New:

MMPI 335. Mixing and Mastering. (3.0) An advanced lecture and project-oriented course centered on the audio production processes of mixing and mastering. Topics will include aesthetics of a mix as well as various processes and techniques relevant to music production. Students will engage in extensive critical listening throughout the course. Prerequisite: MMPI 236; permission of the department chairperson.

Revised:

Drop:
MUSIC ENGINEERING TECHNOLOGY (MUMET)

Replace with:
MUSIC MEDIA PRODUCTION AND INDUSTRY (MMPI)

DEPARTMENT OF THEATRE AND DANCE

Revised:

Minimum Grade Requirement
The lowest acceptable grade in a course for credit toward a major or minor in Theatre or Dance is *C*.

MINOR IN DANCE, 24 hours

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
Core requirements, 13 hours			
DANCE	210	Ballet 1	2
	211	Ballet 2	2
	220	Modern 1	2
	221	Modern 2	2
THEAT	105	Fresh Exper	0
	280	Theat Pract (0-1)	2
3 hours from			
DANCE	100	In Dnce Hist (3)	
	or		
	301	Dance Hist 1 (3)	
	or		
	302	Dance Hist 2 (3)	3
			13 hrs

Complete one option
Option 1: Dance Performance, 11 hours
4 hours from

THEAT	280	Theat Pract (0-1)	
DANCE	489	BSDT (1)	4

7 hours from directed electives below 7

24 hrs

Option 2: Musical theatre dance, 11 hours

DANCE	231	Jazz 2	2
	232	Tap 1	1
	330	Jazz 3	2

1 hour from

DANCE	240	World Stu 1 (1)	
	or		
	242	World Stu 2 (1)	1

2 hours from

DANCE	280	MT Dance 1 (2)	
	or		
	281	MT Dance 2 (2)	2
3 hours from directed electives below			3
			24 hrs

Option 3: Dance studies, 11 hours

DANCE	301	Dance Hist 1	3
	302	Dance Hist 2	3
	387	Choreogrph 1	2
3 hours from directed electives below			3
			24 hours

Directed electives for all minors

DANCE	230	Jazz 1 (2)
	231	Jazz 2 (2)
	232	Tap 1 (1)
	240	World Stu 1 (1)
	242	World Stu 2 (1)
	280	MT Dance 1 (2)
	281	MT Dance 2 (2)
	287	Improv (2)
	300	Dn Condition (1)
	310	Ballet 3 (2)
	311	Ballet 4 (2)
	315	Technique St (1)
	320	Modern 3 (2)
	321	Modern 4 (2)
	330	Jazz 3 (2)
	331	Jazz 4 (2)
	332	Tap 2 (1)
	380	Dnc Productn (2)
	387	Choreogrph 1 (2)
	487	Choreogrph 2 (2)
	488	Dnc Pedagogy (3)
THEAT	280	Theat Pract (0-1)
	496	Directed Stu (1-9)

Honors College

Revised:

REQUIRED HONORS CURRICULUM

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
HONRS	100	Freshman Sem	1
	189	Global St	3
	199	Cnt US Issue	3
	201	Inq Anc Wrld	3
	202	Mdl/Ren/Enlt	3
	203	19/20/21 Cnt	3
	390	Hon Colloq	1-3
	390	Hon Colloq	1-3
	499	Hnrs Project	3

3 hours from

HONRS	296	Physical Sci (3)	
	297	Earth Sci (3)	
	298	Life Sci (3)	3

Two colloquia on different topics are required for HONRS 390.

HONORS (HONRS)

Revised:

HONRS 299X. Inquiries in Special Topics. (1.0 TO 6.0) Exploration of special topics relevant to Honors learning. Titles will be announced before each semester. May be repeated for different topics. Prerequisite: permission of the dean of the Honors College. There is no limit to the amount of credit that may be earned. Open only to Honors College students.

HONRS 300. Leadership Seminar. (0.0 TO 1.0) Development of communication, leadership, and facilitation skills; exploration of relevant documents and additional resources. Prerequisite: permission of the dean of the Honors College. A total of 2 hours of credit may be earned, but no more than 1 in any one semester or term. Open only to Honors College sophomores, juniors, and seniors.

College of Sciences and Humanities

DEPARTMENT OF MATHEMATICAL SCIENCES

Revised:

MASTER OF ARTS IN ACTUARIAL SCIENCE

The master's program in actuarial science provides training for careers that involve analyzing and solving financial, business, and social problems related to economic risk. The program includes course work that prepares students for the professional examinations given

by the Society of Actuaries and the Casualty Actuary Society.

Admission

Applicants must meet the regular admission requirements of the Graduate School. It is also expected that students will have had three semesters of calculus, a course in linear algebra, at least one semester of probability and one semester of statistics.

Degree Requirements

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
MATHS	551	Math Finance	4
	552	Life Cont 1	4
	553	Life Cont 2	4
	557	Act Model 1	4
	559	Mod Fin Econ	3
	620	Math Stat 1	4
	659	Res Act Sci	3
	698	Exit Survey	0
6-8 hours from			
FIN	500	Corporation (3)	
MATHS	528	Reg Time Ser (3)	
	554	Math Invest (4)	
	558	Act Model 2 (3)	
	621	Math Stat 2 (4)	
	625	Prob Theor 1 (3)	
	626	Prob Theor 2 (3)	
	627	Gen Lin Mod (4)	
	628	Comput Stat (4)	
	655	Top Act Sci (1-4)	
	658	Risk Theory (3)	
RMI	570	Risk Mgt Ins (3)	6-8
More hours from this list will be required if courses are waived due to undergraduate or actuarial exam credit.			
			32-34 hrs

MASTER OF ARTS IN MATHEMATICS

The master of arts degree in mathematics provides students with a broad graduate-level mathematical background suitable for community college teaching, for pursuing a PhD degree in the mathematical sciences, or for seeking employment in business, industry, or government.

Admission

Applicants must meet the regular admission requirements of the Graduate School and have an undergraduate major in mathematics or an equivalent background as determined by the Department of Mathematical Sciences.

Degree Requirements

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
MATHS	511	Abstr Alg 1	3
	512	Abstr Alg 2	3
(If the undergraduate equivalent is not complete. Otherwise course substitutions in algebra will be made in conjunction with the program advisor.)			
MATHS	571	Real Anls 1	3
	572	Real Anls 2	3
(If the undergraduate equivalent is not complete. Otherwise course substitutions in analysis will be made in conjunction with the program advisor.)			
MATHS	645	Topology 1	3
	675	Measr Thry 1	3
	677	Complx Var 1	3
3-6 hours from			
MATHS	516	Thry Numbers (3)	
	556	Oper Res (3)	
	562	Numer Anls 1 (3)	
	563	Numer Anls 2 (3)	
	573	Bdry Val Pbm (3)	
	575	P D E (3)	
	625	Prob Theor 1 (3)	
	626	Prob Theor 2 (3)	
	646	Topology 2 (3)	
	676	Measr Thry 2 (3)	
	678	Complx Var 2 (3)	3-6
Research component, 3-6 hours from			
MATHS	689	Res Mth Stat (3)	
	694	Res Math Ed (3)	
THES	698	Thesis (1-6)	3-6
			30 hrs

MASTER OF ARTS IN STATISTICS

The master's program in statistics provides students with the background suitable for employment as a statistician in business, industry, or government. The degree also provides suitable preparation for pursuing a PhD degree in statistics.

Admission

Applicants must meet the regular admission requirements of the Graduate School. It is also expected that students

will have had three semesters of calculus and a course in linear algebra.

Degree Requirements

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
MATHS	522	Sampling	3
	528	Reg Time Ser	3
	529	Exp Designs	3
	620	Math Stat 1	4
	621	Math Stat 2	4
	625	Prob Theor 1	3
	626	Prob Theor 2	3
	627	Gen Lin Mod	4
	628	Comput Stat	4
	689	Res Mth Stat	3
			34 hrs

MASTER OF SCIENCE IN MATHEMATICS

The master of science degree in mathematics provides students with a broad graduate-level mathematical background suitable for community college teaching, for pursing a PhD degree in the mathematical sciences, or for seeking employment in business, industry, or government. Students pursuing the master of science degree will be required to write a 6-hour thesis.

Admission

Applicants must meet the regular admission requirements of the Graduate School and have an undergraduate major in mathematics or an equivalent background as determined by the Department of Mathematical Sciences.

Degree Requirements

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
MATHS	511	Abstr Alg 1	3
	512	Abstr Alg 2	3

(If the undergraduate equivalent is not complete. Otherwise course substitutions in algebra will be made in conjunction with the program advisor.)

MATHS	571	Real Anls 1	3
	572	Real Anls 2	3

(If the undergraduate equivalent is not complete. Otherwise course substitutions in analysis will be made in conjunction with the program advisor.)

MATHS	645	Topology 1	3
	675	Meas Thry 1	3
	677	Complx Var 1	3

3 hours from

MATHS	516	Thry Numbers (3)	
	556	Oper Res (3)	
	562	Numer Anls 1 (3)	
	563	Numer Anls 2 (3)	
	573	Bdry Val Pbm (3)	
	575	P D E (3)	
	625	Prob Theor 1 (3)	
	626	Prob Theor 2 (3)	
	646	Topology 2 (3)	
	676	Measr Thry 2 (3)	
	678	Complx Var 2 (3)	3
THES	698	Thesis (1-6)	6
			30 hrs

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT

Revised:

MAJOR IN NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT, 60-62 hours

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
Core foundation, 8 hours			
NREM	101	Env & Socy	3
	201	Ug Seminar	1
CHEM	111	Gen Chem 1	4
Core requirements, 18 hours			
NREM	211	Water Resour	3
	221	Soil Resourc	3
	241	Air Resource	3
	286	Comp Applic	3
	331	Enrg Min Res	3
	405	Int Res Mgt (3)	
	or		
	Any Tier 3 (UCC-21) (3)		3
			26 hrs

Core foundation must be completed before enrolling in NREM 221 or higher courses. Students in environmental management are encouraged to take CHEM 112 immediately following CHEM 111.

Complete 1 of 2 of the following concentrations

Environmental management concentration, 62 hours

BIO	111	Princ Bio 1	4
	313	Microbiology	4
CHEM	112	Gen Chem 2	4

Students must complete either
- 24 credit hours from two of the following clusters or
- 15 hours from one cluster, plus 9 hours of electives approved by advisor or chairperson or
- 15 hours from one cluster plus a minor approved by advisor or chairperson.

Related clusters

Environmental remediation

NREM	307	Envl Mgt Dev (3)
	346	In Env Qual (3)
	347	Occ Ind Hyg (3)
	348	Asbest Lead (3)
	350	Hazmat Safe (3)
	387	Waste Manage (3)
	488	S Assess Rem (3)

Emergency response

NREM	387	Waste Manage (3)
EMHS	351	Int EM HS (3)
	352	Sci WMD Tech (3)
	389	WMD Aware (3)
	469	Pro Practice (1-6)
	493	Spec Topics (1-6)

Soil and water conservation

NREM	304	Sust Agric (3)	
	315	Wat Qual Mgt (3)	
	320	Wetland (3)	
	322	Soil Quality (3)	
	324	Soil Classif (3)	
	327	Soil Cnv Mgt (3)	
	357	Intl Com Dev (3)	
	372	App Res Meth (3)	
	385	Wastewtr Mgt (3)	24
			62 hrs

The following courses may be substituted for those in the clusters above with approval of the academic advisor or department chair.

NREM	299X	Exp Dev Tpcs (3-6)
	369	Pro Prac Exp (1-3)
	390	Honrs Colloq (3)
	402	Field Study (1-6)
	497	Spec Studies (1-3)

NREM 402 has a limit of 3 hours.

Natural resources concentration, 60 hours

NREM	203	Decn Res Mgt	3
BIO	112	Princ Bio 2	4
	216	Ecology	3

Students must complete either
- 24 credit hours from two of the following clusters or
- 15 hours from one cluster plus 9 hours of electives approved by advisor or chairperson or
- 15 hours from one cluster plus a minor approved by advisor or chairperson.

Related clusters

Recreation and interpretation

NREM	204	Am Env Hist (3)
	369	Pro Prac Exp (1-3)
	371	Outd Rec Soc (3)
	392	Env Interp (3)
	395	Tch Env Ed (3)
	473	Rec Plan Adm (3)
	477	Wildrnes Soc (3)

Sustainable development

NREM	205	Intl NR Cons (3)
	304	Sust Agric (3)
	307	Envl Mgt Dev (3)
	309	Globl Change (3)
	335	Renew Energy (3)
	357	Intl Com Dev (3)

Soil and water conservation

NREM	304	Sust Agric (3)	
	315	Wat Qual Mgt (3)	
	320	Wetland (3)	
	322	Soil Quality (3)	
	324	Soil Classif (3)	
	327	Soil Cnv Mgt (3)	
	357	Intl Com Dev (3)	
	372	App Res Meth (3)	
	385	Wastewtr Mgt (3)	24
			60 hrs

The following courses may be substituted for those in the clusters above with approval of the academic advisor or department chair.

NREM	299X	Exp Dev Tpcs (3-6)
	369	Pro Prac Exp (1-3)
	390	Honrs Colloq (3)
	402	Field Study (1-6)
	497	Spec Studies (1-3)

NREM 402 has a limit of 3 hours.

DEPARTMENT OF PHYSICS AND ASTRONOMY

Revised:

MASTER OF ARTS IN PHYSICS

Degree Requirements

Requires the student to write a research paper on a research project in physics or physics education. The research paper earns a total of 3 hours of credit.

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
Core requirements			
PHYCS	534	Thermodynamc (3)	
	or		
	675	Thermal Phys (3)	3
	552	Elec Mag 2 (3)	
	or		
	673	Electdynamcs (3)	3
	565	Quant Mech	3
	530	Mechanics (3)	
	or		
	671	Clasicl Mech (3)	3
	683	Seminar (1-4)	3
Courses in physics, applied physics, or astronomy as approved by the department. A minimum of 12 credit hours must be in courses at the 600 level.			9-15
Research requirement			
RES	697	Research Ppr (1-3)	3
Minors and electives as approved by the department			0-6
			33 hrs

MASTER OF SCIENCE IN PHYSICS

Degree Requirements

Requires a 6-hour thesis, which is normally a formal report on the student's research in some feature of experimental, theoretical or computational physics, or physics education.

PREFIX	*NO*	*SHORT TITLE*	*CR HRS*
Core requirements			
PHYCS	565	Quant Mech	3
	671	Clasicl Mech	3
	673	Electdynamcs	3
	675	Thermal Phys	3
	683	Seminar (1-4)	3
Courses in physics, applied physics, or astronomy as approved by the department			6-12
Research requirement			
THES	698	Thesis (1-6)	6
Minors and electives as approved by the department			0-6
			33 hrs

Topics for research leading to an MS or MA degree may include applied nuclear (Radon) studies; condensed matter/nanostructure studies; observational stellar astronomy, galactic structure, and extragalactic astronomy; solar energy applications; microprocessor-based instrumentation, computer vision; radiocarbon dating; elementary particle physics (Ball State University/ Fermi Lab); physics studies applied to policies on arms control, energy, and the environment; and physics education.

If the student chooses experimental physics as a research topic, it normally will be in one of the above areas for which laboratory and apparatus are available. However, it is possible for research to be conducted at a cooperating industrial or national research and development laboratory or educational institution. For research in both experimental and theoretical physics, remote access to the university's central computer is available; students also have access to desktop computers in the department. Students' choices of research topics must be approved by the department.

Assistantships

Normally students who are awarded graduate assistantships will need about two years to complete work for the master's degree. Students should allow a minimum amount of time equivalent to about three semesters of thesis research for initial approval, completion, and final acceptance by the department and Graduate School.

Teachers College

DEPARTMENT OF ELEMENTARY EDUCATION

Revised:

TEACHING MAJOR IN ELEMENTARY EDUCATION
(Grades K-6), 126 hours

Modern Languages, 15 hours

Spanish option (Minor)

SP	201	Intermed 1	3
	202	Intermed 2	3
	301	Conversation	3
	302	Composition	3
3 hours from any 300-400 level SP course			3
			15 hrs

Ron Murphy, Associate Director
Office of Academic Systems