University Curriculum Committee

28 October 2004 Meeting Minutes

Members present:

Guest present:
D. Coltraine

Members excused:
D. Long

Due to a potential conflict of interest for Hudson, the meeting was called to order by Vice-chair Cheryl Estes, who presided throughout.

Approved without dissent the minutes of the 14 October 2004 meeting.

Professors Sharon Knight and Steve Estes from the College of Health and Human Performance spoke in favor of the BS in Sports Studies proposed by the Department of Exercise and Sport Science. Degree requirements described in the marked and final catalog copy. After discussion, Hudson moved for approval, with a second by Arnold. Motion passed without dissent.

Ron Preston, Chair of the Department of Mathematics and Science Education and John Swope, Associate Dean of the College of Education, spoke in favor of new MATE courses, as described in their memo and the marked and final catalog copy. The courses include:

Ø The following new courses to support the Mathematics Concentration for Middle Grades Teachers:

MATE 1267: Functional Relationships
MATE 2067: Data and Probability Explorations
MATE 3067: Algebra and Number Foundations
MATE 3167: Geometry and Measurement
MATE 3267: Concepts in Discrete Mathematics
MATH 3367: Mathematical Modeling

Ø The following new courses to support the Secondary Mathematics Education program:

MATE 2700: Applications in Statistics and Probability
MATE 2800: Discrete Mathematics: Explorations and Applications
The proposed new courses are the culmination of the long process of resolving differences between the Departments of Mathematics and Mathematics and Science Education over courses intended for the middle grades concentration in mathematics and the secondary mathematics education programs. These courses are intended to replace MATE courses that were cross-listed as MATE/MATH for the 2002 – 2003 and 2003 – 2004 academic years, but which will not be cross-listed after this year.

Gail Ratcliff, Chair of the Department of Mathematics, also attended the meeting to speak in opposition to the courses. A very lengthy discussion ensued regarding the courses. Dr. Ratcliff’s opposition is primarily to MATE 2700 and 2800, as she felt that they were content courses that should be taught from the Department of Mathematics. Dr. Preston contended that, while there is mathematical content in MATE 2700, 2800, it is a directed content aimed at preparing teachers to have a deep and connected knowledge of the actual content they will teach. He argued that the proposed courses connect school mathematics to university mathematics by providing examples of school mathematics problems and then extending them to a university level; moreover, the courses focus on multiple solution paths and the connections between them – not just upon the most efficient or most elegant solution.

The proposed courses are those referred to in the motion passed by the UCC on 12 February 2004, as described in item #9 of the minutes.

After lengthy discussion, E. Smith moved for approval of the entire package of MATE courses, with a second by Kean. Motion approved by a vote of 6 in favor, 2 opposed.

5) Meeting adjourned at 3:25 pm.

Minutes submitted by T. D. Hudson
PHYS 1260 or 2260)

4. Electives to complete requirements for graduation........................................... 5 s.h.

BS in Sports Studies

A minimum cumulative 2.0 GPA, 32 s.h. general education and successful completion of the health-related physical fitness test is required for admission to the Sports Studies major. A minimum grade of C is needed in all required EXSS courses for successful completion of the degree.

1. **General education requirements** (See Section 4, General Education Requirements for all Baccalaureate Degree Programs), including those listed below ........................................... 42 s.h.

**BIOL 1050. General Biology (3) (F,S,SS) (GE:SC)**

**BIOL 1051. General Biology Laboratory (1) (F,S,SS) GE:SC**

**COMM 2410. Public Speaking (3) (F,S,SS) (GE:FA)** or **COMM 2420. Business and Professional Communication (3) (F,S,SS) (GE:FA)**

**MATH 1065. College Algebra (3) (F,S,SS) (GE:MA) (P: Appropriate score on mathematics placement test)** or **MATH 1066. Applied Mathematics for Decision Making (3) (F,S,SS) (GE:MA) (P: Appropriate score on mathematics placement test or approval of dept. chair)**

**PHIL 1176. Introduction to Social and Political Philosophy (3) (F,S,SS) (GE:HU)**

**PHYS 1250. General Physics (3) (F,S,SS) (GE:SC) (P: MATH 1065)**

**PHYS 1251. General Physics Laboratory (1) (F,S,SS) (GE:SC) (C for 1251: PHYS 1250 or 2350)**

**PSYC 1000. Introductory Psychology (3) (F,S,SS) (GE:SO)**

**RCLS 2601. Leisure in Society (3) (F,S,SS) (GE:SO)**

2. **Core** .................................................................................................................. 33 s.h.

Choose 4 s.h. of EXSS 1000 level activity courses in addition to the following core courses.

**EXSS 2000. Introductory Exercise and Sport Science (3) (F,S,SS)**

**EXSS 2202. Motor Learning and Performance (3) (F,S,SS)**

**EXSS 2850. Structural Kinesiology (1) (F,S,SS)**

**EXSS 3300. Applied Sports Psychology (3).**
EXSS 3301. Physical Education and Sport in Modern Society (3) (F,SS).

EXSS 3600. Coaching Theories (2)

EXSS 3805. Physiology of Exercise (3) (F,S,SS) (P: Health and human performance major or minor or consent of dept. chair; BIOL 2130 or BIOL 2140, 2141, 2150, 2151; EXSS 2850).

EXSS 3850. Introduction to Biomechanics (3) (F,S,SS) (P: BIOL 2130 or BIOL 2140, 2141, 2150, 2151; EXSS 2850; PHYS 1250, 1251; or consent of instructor)

EXSS 4300. Program Development and Management in Physical Education and Sports (2) (F,S,SS) (P: Upper-division status and EXSS 2323; or consent of instructor)

EXSS 4301. Comparative Sport and Physical Education: International Aspects (3) (WI) (S,SS).

EXSS 4502. Independent Study in EXSS (3) (WI).

3. Cognates 19 s.h.

ASIP 2112. Introduction to Information Processing Technology (3) (F,S,SS) or DSCI 2223. Introduction to Computers (3) (F,S,SS).

BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (GE:SC) (P: BIOL 1050, 1051; or 1100, 1101)

COMM 3520. Sports Media Survey (3) (P: COMM major or minor or consent of instructor)

HIST 2444. The History of Sports in Western Society (3) (F) (GE:SO).

PHIL 2280. Introduction to Philosophy of Sport (3) (GE:HU).

PSYC 3206. Developmental Psychology (3) (WI*) (F,S,SS) (GE:SO) (P: PSYC 1000 or 1060) or PSYC 3221. Social Psychology (3) (F,S,SS) (GE:SO) (P: 1000 or 1060)

4. Minor and electives to complete requirements for graduation 26 s.h.

Exercise and Sport Science Minor

Minimum requirement for the exercise and sport science minor is 38 s.h. of credit as follows:

1. Core ................. 26 s.h.

EXSS 2000. Introductory Exercise and Sport Science (3) (F,S,SS)
EXSS 2202. Motor Learning and Performance (3) (F,S,SS)
EXSS 2850. Structural Kinesiology (1) (F,S,SS)
EXSS 3850. Introduction to Biomechanics (3) (F,S,SS) (P: BIOL 2130 or BIOL 2140, 2141, 2150, 2151; EXSS 2850; PHYS 1250, 1251; or consent of instructor)

**Sport Studies Minor**

Minimum requirement for sport studies minor is **24 s.h.** of credit as follows:

1. **Core ................. 15 s.h.**
   
   EXSS 2000. Introductory Exercise and Sport Science (3) (F,S,SS)
   
   EXSS 3300. Applied Sports Psychology (3)
   
   EXSS 3301. Physical Education and Sport in Modern Society (3) (F,SS)
   
   EXSS 3600. Coaching Theories (2)
   
   EXSS 4300. Program Development and Management in Physical Education and Sports (2) (F,S,SS) (P: Upper division status; EXSS 2000 or 2323)
   
   EXSS 4301. Comparative Sport and Physical Education (3) (WI) (S)

2. **Cognates.......... 9 s.h.**

   HIST 2444. History of Sports in Western Society (3) (F) (GE:SO)
   
   PHIL 2280. Introduction to Philosophy of Sport (3) (GE:HU)
   
   RCLS 2601. Leisure in Society (3) (GE:SO)

*Insert on Pages 398 – 399 of 2004 – 2005 Undergraduate Catalog*

(pp. 398-399)

**MATE: MATHEMATICS EDUCATION**

1067. **Algebraic Concepts and Relationships (3) (F,S) (GE:MA)** Same as MATH 1067. May not count toward MATH or CSCI major or minor. P: Appropriate score on math placement test. Properties of integers, rationals, real and complex numbers, and polynomials from an algebraic point of view; conjectures and intuitive proofs in number theory; properties of linear and quadratic functions. Representations of real-world relationships with physical models, charts,

1267. Functional Relationships (3) (S) P: MATH 1065 or equivalent. Problem-solving approach to the study of functions for teachers. Study includes polynomial, exponential, logarithmic, logistic, and trigonometric functions from multiple representations, particularly using visual technology and making real-world applications. Applications taken from K-12 mathematics.

2067. Data and Probability Explorations (3) (F) (S) P: MATH 1065 or equivalent. Conceptual development and exploration of notions in data analysis and probability for teachers. Collection, organization, representation, and analysis of data from experiments and surveys. Probabilistic analysis for the purposes of judging claims and making decisions. Applications taken from K-12 mathematics.

2123. Early Experiences for the Prospective Teacher (1) (F,S) Formerly MATH 2123 For prospective teachers. Minimum of 16 hours of directed observations and planned participation in appropriate school environments and 8 hours of seminar class instruction in the teaching area. May not count toward BA in MATH major or minor. P: MATH 2171. Introduction to teaching of mathematics.

2129. Basic Concepts of Mathematics II (2) (F,S,SS) Formerly MATH 2129 For elementary education majors. May not count toward MATH or CSCI major or minor. P: MATH 2127. Second course in sequence. Methods and language of geometry and relationship of geometry to real world.

2282. Data Analysis and Probability (3) (F,S) Same as MATH 2282 May not count toward MATH or CSCI major or minor. May receive credit for one of MATE or MATH 2282, 2935. P: MATE or MATH 1067. Collection of data from experiments and surveys. Organizing and representing data. Interpreting data for judging claims, making decisions, or making predictions.

2700. Applications in Statistics and Probability (3) (F) P: MATH 1065 or equivalent. Conceptual development, exploration, and applications in statistics and probability for teachers. Study involves the collection, organization, representation, and interpretation of data using a hands-on approach. Emphasis on using technology, including graphics calculators and software. Applications taken from 9-12 mathematics.

2775. Topics in Discrete Mathematics (3) (S) Same as MATH 2775 For prospective teachers of secondary school math. May receive credit for one of MATE or MATH 2775, 3237 or MATH 2427. P: MATH 1085. Selected topics
include counting techniques, graph theory, difference equations, recursion, iteration, induction, and dynamical systems.

2800. Discrete Mathematics: Explorations and Applications (3) (S) P: MATH 1065 or equivalent. Problem-solving study of discrete mathematics for teachers. Topics include sequences, graph theory, counting techniques, dynamical systems, recursion, combinatorics, and mathematical induction. Applications taken from 9-12 mathematics.

2935. Data Analysis (3) (F) Same as MATH 2935 May receive credit for one of MATE or MATH 2282, 2935. P: MATH 1085. Introductory course utilizing hands-on approach to collection, representation, and interpretation of data. Topics include types of data, sampling techniques, experimental probability, sampling distributions, simulations, and hypothesis testing using collected data.

3004. Seminar in Secondary Mathematics Curriculum: Algebra (1) (S) Formerly MATH 3004 10 practicum hours per semester. May not count toward BA in MATH or minor. P: MATE 2123. Teaching and learning of introductory high school algebra.

3005. Seminar in Secondary Mathematics Curriculum: Geometry (1) (F) Formerly MATH 3005 10 practicum hours per semester. May not count toward BA in MATH or minor. P: MATE 2123; C: MATH 3233. Teaching and learning of high school geometry.

3006. Seminar in Secondary Mathematics Curriculum: Advanced Mathematics (1) (F) Formerly MATH 3006 10 practicum hours per semester. May not count toward BA in MATH or minor. P: MATE 3004, 3005. Teaching and learning of advanced high school mathematics.

3067. Algebra and Number Foundations (3) (F) (S) P: MATH 1065 or equivalent. Problem-solving development of important concepts in number and algebra for teachers. Focus on properties of integers, rationals, and real numbers; properties of linear, quadratic, and cubic functions; multiple representations (physical models, graphs, equations, tables) of relations, functions, equations, and inequalities. Applications taken from K-12 mathematics.

3166. Euclidean Geometry (3) (F,S) Same as MATH 3166 May not count toward MATH or CSCI major or minor. P: MATE 1067 or MATH 1065 or 1067, 2127. Euclidean geometry using deductive and inductive mathematical reasoning. Formal proofs.

3167. Geometry and Measurement (3) (F) (S) P: MATH 1065 or equivalent. Tool-based development of important concepts in Euclidean geometry and measurement for...
teachers. Focus on inductive reasoning, deductive reasoning, and informal and formal proof. Use of tools (technology and instruments) to explore issues in measurement. Applications taken from K-12 mathematics.

3218. Teaching Mathematics in Special Education (3) (F,S,SS) Formerly MATH 3218 4 lecture/lab hours per week. Lab and practicum experiences required. May not count toward MATH major or minor. P: Admission to upper division; MATH 1065, 2127; SPED 2000; at least one of the following: SPED 2102, 2103, 2104; RP: MATE 2129. Methods, materials, and techniques of teaching mathematics to special education students.

3223. Teaching Mathematics in the Elementary Grades K-6 (3) (F,S,SS) Formerly MATH 3223 2 lecture and 2 lab hours per week. P: MATE 2129. Techniques and methods for teaching mathematics to students in grades K-6. Lab provides deeper understanding of mathematical concepts and experience with materials and methods appropriate for classroom work.

3237. Discrete Mathematics (3) (F) Same as MATH 3237 May not count toward MATH or CSCI major or minor. May receive credit for one of MATE or MATH 2775, 3237 or MATH 2427. P: MATH 2121. Logic and sets, mathematical induction, and matrices. Applications of discrete mathematics in probability, linear programming, dynamical systems, social choice, and graph theory.

3239. Applied Mathematics Via Modeling (3) (S) Same as MATH 3239 May not count toward MATH or CSCI major or minor. P: MATE or MATH 2282, 3166, 3237; MATH 2122. Real-world problems that can be modeled with algebra, geometry, calculus, and statistical, probabilistic, discrete, or other mathematical techniques appropriate for prospective teachers of middle school mathematics. Mathematical modeling processes examined through historical and contemporary modeling success stories. Power and limitations of mathematical modeling.


4001. Technology in Secondary Mathematics Education (3) (F) Formerly MATH 4001 2 lecture and 2 lab hours per week. May not count toward MATH major or minor. P:
Admission to upper division; MATE or MATH 2775, 2935; C: MATE 4323. Uses and implications of calculators and computers in secondary mathematics curriculum.

4319. Teaching Mathematics in the Middle Grades (3) (F) Formerly MATH 4319 4 hours per week and 10-12 hours of field experience. May not count toward MATH or CSCI major or minor. P: Admission to upper division; EDUC 3200; MIDG 3010, 3022; MATE or MATH 2282, 3166, 3237; MATH 2122 or consent of instructor; C: MIDG 4001, 4010; ENED or HIED or MIDG or SCIE 4319; or consent of instructor. Techniques and methods of teaching mathematics in grades 6-9.

4323. The Teaching of Mathematics in High School (3) (F) Formerly MATH 4323 4 hours per week. May not count toward BA in MATH or minor. P: MATE 2123. Modern methods and techniques used in teaching secondary school mathematics.

4324. Internship in Mathematics (10) (S) Formerly MATH 4324 Full-time, semester-long internship. May not count toward BA in MATH or minor. P: Admission to upper division; MATE 4323; C: MATE 4325; READ 3990. Observation and supervised teaching in mathematics in assigned public secondary school classroom.

4325. Internship Seminar: Issues in Mathematics Education (1) (S) Formerly MATH 4325 May not count toward BA in MATH or minor. P: Admission to upper division; MATE 4323; C: MATE 4324. Individualized study of problems or issues.

4501, 4502, 4503. Independent Study in Mathematics Education (1,2,3) For advanced mathematics education students. Number of hours per week will depend on credit hours and nature of work assigned. P: BS Math, Secondary major; mathematics concentration; consent of dept chair. Topics supplement regular curriculum.

5251. Modern Mathematics for Elementary Teachers I (3) Formerly MATH 5251 Not open to undergraduate or graduate math majors or minors. A teacher taking this course would receive certificate renewal credit and/or 3 s.h. of graduate elective credit in elementary education. P for undergraduate students: MATE 3223 or consent of instructor; P for graduate students: MATE 2129; MATH 2127; 3219 or 3221; or equivalent; or consent of instructor. Numeration systems and real numbers from axiomatic approach. Topics in geometry, algebra, probability theory, and number theory. Emphasis on relationship between these topics and school mathematics.

5263, 5264. Modern Mathematics for Junior High School Teachers I, II (3,3) Formerly MATH 5263, 5264 May not count toward MATH or CSCI major or minor. P for 5263: Consent of instructor; P for 5264: MATH 5263 or consent of instructor. Set theory, mathematical systems and proofs, number systems, elementary number theory, applications of mathematics in business, science, and other areas. Basic concepts of geometry, algebra, probability, and statistics.
5265, 5266. Microcomputers in Secondary Education (3,0) Formerly MATH 5265, 5266 2 lecture and 2 lab hours per week. May not count toward a MATH or CSCI major or minor. P: MATE 3166 or MATH 3166 or MATH 1075 or 1085; consent of instructor. Operation and programming of microcomputers in secondary school system.

5267, 5268. LOGO: A Computer Language for Educators (3,0) Formerly MATH 5267, 5268 2 lecture and 2 lab hours per week. May not count toward MATH major or minor. P: MATE or MATH 3166 or consent of instructor. LOGO and its uses with students K-12.

Catalog Minutes submitted by Ellen Arnold