



# *Academic Notes*

February 18, 2013

AN 2012-2013

## **ACADEMIC NOTES PUBLICATION SCHEDULE**

Below is the publication schedule for the electronic copy of *Academic Notes* through May 6, 2013. All submissions for inclusion in *Academic Notes* are due in the Office of Academic Affairs no later than 11:00 a.m. on the Deadline for Items date shown below. Submissions must be in hard copy along with an email, zip drive, or CD with the same information. The electronic version must be formatted either in Word with pages with signatures scanned and inserted as a picture OR PDF saved as text and image. (Do NOT send PDF just saved as an image.) Information submitted to *Academic Notes* that is not accompanied by an electronic version or that is incomplete or unusable will be returned to the appropriate office. *Academic Notes* is available using Acrobat Reader at [http://www.indstate.edu/academicaffairs/academic\\_notes.htm](http://www.indstate.edu/academicaffairs/academic_notes.htm) During the summer months, *Academic Notes* is published every other week. If you have questions, please contact Yvonne Russell in Academic Affairs, extension 3662.

## **ACADEMIC NOTES PUBLICATION SCHEDULE FOR SPRING 2013**

<b><u>Deadline for Items</u></b>	<b><u>Issue Date</u></b>
February 13	February 25
February 20	March 4
February 27	March 11
March 6	March 18
March 13	March 25
March 20	April 1
March 27	April 8
April 3	April 15
April 10	April 22
April 17	April 29
April 24	May 6

# CURRICULUM

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## **UNDERGRADUATE PROPOSALS**

### **NEW COURSES**

#### **BAYH COLLEGE OF EDUCATION: Elementary, Early, and Special Education**

##### **SPED 203 - Preschool Special Education**

3 credits

This course teaches typical and atypical preschool development as well as childhood milestones. Early intervention for addressing social, language and academic needs will be stressed. An early field placement in a special education preschool is required in addition to in-class time.

*A-F Grading*

*Effective term: Fall 2013*

### **SPED 216 - Collaborative Teaching**

3 credits.

This course allows for an integrated presentation of Assistive Technology (both electronic and non-electronic forms) in tandem with the concepts of Universal Design for learning and Differentiated Instruction within the collaborative format of Co-teaching. A middle-school practicum is required.

**Prerequisite:** Admission to BCP-1.

*A-F Grading*

*Effective term: Fall 2013*

### **SPED 314 - Math Strategies and Assessment**

3 credits

This course provides instruction in math strategies and assessment across the broad range of age and performance abilities. Course topics include designing and adapting math instruction to meet the needs of diverse learners and assessing students with disabilities. Field experience is required.

**Prerequisite:** Admission to BCP-I

*A-F Grading*

*Effective term: Fall 2013*

### **SPED 318 - Differentiated Reading**

3 credits

This course provides a theoretical understanding about literacy, procedures for assessing literacy, and differentiated instruction strategies to support literacy. Participants will focus on the impact of teaching toward the diverse needs of learners and the infusion of technology to meet the diverse needs of learners.

**Prerequisite:** Admission to BCP1

*A-F Grading*

*Effective term: Fall 2013*

### **Sped 425 – Advanced Behavior Management**

3 credits

Through this course teacher candidates will gain a deeper understanding of students with chronic behavioral concerns, as well as interventions, strategies and plans to support these students. Candidates will also complete a practicum experience in a self-contained setting working with students with behavioral concerns.

**Prerequisite/Co-requisites:** Admission to BCP I, Completion of SPED 215

*A-F Grading*

*Effective term: Fall 2013*

### **SPED 457 - Special Education Capstone**

3 credits

Coupled with the final field experience of student teaching, is the culminating experience preceding professional teacher licensure. Pre-service teachers will complete a teacher work sample demonstrating their content knowledge, methodologies, and assessment strategies.

**Co-requisite:** Concurrent enrollment in SPED 405 and admission to BCP-I

*A-F Grading*

*Effective term: Fall 2013*

## **SCOTT COLLEGE OF BUSINESS: Management, Information Systems, and Business Education**

### **MGT 210 – Entrepreneurship Fundamentals**

3 credits

This course provides an introduction to the steps involved in creating a new business. Topics include opportunity or idea recognition and analysis; the customer in the entrepreneurial process; strategies for managing, marketing, and financing a new business; and the role of creativity and innovation in entrepreneurship.

**Prerequisite:** Sophomore standing.

*A-F Grading*

*Effective term: Fall 2013*

## **COLLEGE OF TECHNOLOGY: Aviation Technology**

### **UMS 181 - Principles of Flight for Non-Aviation Majors**

3 credits

The course provides the student the basic knowledge of aerodynamic fundamentals, aircraft characteristics and performance, aircraft and propulsion systems, weather, physiology, and decision making skills. Additionally, the students learn concepts of aerial operations that may be applied to ground and marine vehicle systems.

*A-F Grading*

*Effective term: Fall 2013*

### **UMS 382 - The Mechanics of Unmanned Systems**

3 credits

This course will provide the student an understanding of the component systems common to most Unmanned Systems with an emphasis on effective integration and operations. The course focuses on the core technologies and includes examinations of the control systems, power plants (motors), servos/actuators, power sources, and communication technologies utilized in unmanned systems.

**Prerequisite:** UMS 281 or consent of instructor.

*A-F Grading*

*Effective term: Fall 2013*

### **UMS 385 - Human Factors of Unmanned Systems**

3 credits

The course is a study of the complexities of human factors associated with unmanned systems, human behavior, crew performance, and occurrence of human error. It focuses on the similarities and differences of human factors in all unmanned systems and discusses strategies for improved safety. Simulations provide experience and familiarization with degraded systems and unplanned events.

**Prerequisite:** UMS281 or consent of instructor.

*A-F Grading*

*Effective term: Fall 2013*

### **UMS 483 - Payloads and Sensors**

3 credits

The course is a study of the various uses of sensors and payloads associated with unmanned systems. It focuses on the type of sensor and/or payload that can be used in all environments associated with unmanned systems. Simulations will examine the correct type of sensor or payload that can be used in any event in various weather conditions.

**Note:** Due to the International Traffic in Arms Regulations (ITAR) imposed by the State Department of the United States, this course is only open to U.S. citizens.

**Prerequisite:** UMS 281

*A-F Grading*

*Effective term: Fall 2013*

### **UMS 485 - Communications and Data Links for Unmanned Systems**

3 credits

This course is a study of the frequency spectrum used in conjunction with unmanned systems across the globe. It will discuss in depth FCC regulations associated with unmanned systems used around the world. Exercises and simulations will study the effects on the data link if not operating in the correct frequency band for a specific area.

**Note:** Due to the International Traffic in Arms Regulations (ITAR) imposed by the State Department of the United States, this course is only open to U.S. citizens.

**Prerequisite:** UMS 382

*A-F Grading*

*Effective term: Fall 2013*

## **COURSE REVISIONS**

### **BAYH COLLEGE OF EDUCATION: Elementary, Early, and Special Education**

#### **SPED 405 - Supervised Student Teaching in Elementary Education Inclusive Setting and Special Education Resource Setting—Mild Intervention**

5-13 credits

This student teaching experience will be the culmination of a joint program between elementary education and special education. University students will be placed in regular elementary classroom settings that are inclusive of students who have been identified as being learners with exceptional needs needing mild intervention. Student teachers will also experience working with students in a secondary resource setting, also serving students needing mild intervention, during this semester. This course will be taken currently with Elementary Education 451, 453, and 457.

**Note:** All Special Education courses may require observation and participation in field experiences in addition to in-class time.

*Change description to:*

#### **SPED 405 – Supervised Student Teaching in Elementary Education Inclusive Setting and Special Education Resource Setting – Mild Intervention**

5-13 credits

Student teaching is the culmination of the teacher preparation program. Special education students will experience student teaching in two settings: elementary, and secondary (middle school or high school) in classes that are inclusive of students who have Mild Intervention needs.

**Co-requisite:** This course will be taken concurrently with SPED 457. Admission to BCP-I  
*S-U Grading*

*Effective term: Fall 2013*

## **COLLEGE OF ARTS AND SCIENCES: School of Music**

### **MUS 424 - Marching Band Procedures**

1 credits

Philosophy, administration, and instruction for the school marching band program. Practical experience in show design and rehearsal techniques with the University Marching Band as a laboratory ensemble.

**Prerequisites:** Successful completion of or concurrent enrollment in 211 and 213; concurrent enrollment in 409 for wind and percussion principals; completion of 62 credits.

**Note:** Two class hours a week. Open to graduate students. Graduate students are required to do additional work of a research nature.

*Change prerequisites to:*

### **MUS 424 - Marching Band Procedures**

1 credits

Philosophy, administration, and instruction for the school marching band program. Practical experience in show design and rehearsal techniques with the University Marching Band as a laboratory ensemble.

**Prerequisites:** Successful completion of or concurrent enrollment in MUS 211 and MUS 213; concurrent enrollment in MUS 409; completion of 45 credits.

**Note:** Two class hours a week. Open to graduate students. Graduate students are required to do additional work of a research nature.

*A-F Grading*

*Effective term: Fall 2013*

### **MUS 489 - Introduction to the Suzuki Method**

2 credits

An introduction to the philosophy, curriculum, and technique of the Suzuki method of childhood music education as they apply to individual and group study.

**Prerequisites:** MUS 211 and 213 or concurrent enrollment in MUS 211 and 213. MUS 448 and 4 credits of MUS 468; completion of all freshman and sophomore music requirements.

**Note:** For the Professional-Vocational Curriculum, Music Major with Concentration in Composition. Presentation of a whole recital of original compositions during the semester enrolled; concurrent enrollment in 468. Open to graduate students. Graduate students are required to do additional work of a research nature.

*Change prerequisites and remove note to:*

### **MUS 489 - Introduction to the Suzuki Method**

2 credits

An introduction to the philosophy, curriculum, and technique of the Suzuki method of childhood music education as they apply to individual and group study.

**Prerequisites:** Successful completion of or concurrent enrollment in MUS 211 and 213.

*A-F Grading*

*Effective term: Fall 2013*

### **MUS 495 - Student Teaching in Music**

11 credits

Sixteen weeks of student teaching in a music setting to fit the needs of the individual student teacher.

**Prerequisites:** completion of Phase Two of the All-Grade Education Program, approval of the Music Education Division, and approval of the Department of Curriculum, Instruction, and Media Technology. 448 and 4 credits of 468; completion of all freshman and sophomore music requirements

**Note:** For the Professional-Vocational Curriculum, Music Major with Concentration in Composition. Presentation of a whole recital of original compositions during the semester enrolled; concurrent enrollment in 468.

*Change prerequisites and remove note to:*

### **MUS 495 - Student Teaching in Music**

11 credits

Sixteen weeks of student teaching in a music setting to fit the needs of the individual student teacher.

**Prerequisites:** Approval of the Music Education Division, and approval of the Department of Curriculum, Instruction, and Media Technology.

*A-F Grading*

*Effective term: Fall 2013*

### **MUS 496 - Teaching an Integrated Unit in Music**

1 credits

Guidance for and experience in teaching an integrated unit of content in music and writing a professional report based on that instruction.

**Prerequisites:** MUS 448 and 4 credits of 468; completion of all freshman and sophomore music requirements.

**Co-requisites:** CIMT 401

**Note:** For the Professional-Vocational Curriculum, Music Major with Concentration in Composition. Presentation of a whole recital of original compositions during the semester enrolled; concurrent enrollment in 468.

*Change prerequisites and remove note to:*

### **MUS 496 - Teaching an Integrated Unit in Music**

1 credits

Guidance for and experience in teaching an integrated unit of content in music and writing a professional report based on that instruction.

**Co-requisites:** MUS 495

*A-F Grading*

*Effective term: Fall 2013*

### **MUS 498 - Independent Study in Music**

1-3 credits

An individual study or a project in music as decided upon by the student and the instructor. An outline must be submitted to the instructor for approval prior to enrollment in the course.

**Prerequisites:** consent of instructor and approval of Department Chairperson. MUS 448 and 4 credits of 468; completion of all freshman and sophomore music requirements.



**Note:** For the Professional-Vocational Curriculum, Music Major with Concentration in Composition. Presentation of a whole recital of original compositions during the semester enrolled; concurrent enrollment in 468.

*Change prerequisites and remove note to:*

**MUS 498 - Independent Study in Music**

1-3 credits

An individual study or a project in music as decided upon by the student and the instructor. An outline must be submitted to the instructor for approval prior to enrollment in the course.

**Repeatable:** The course may be repeated 3 times for credit.

**Prerequisites:** consent of instructor and approval of Director of the School of Music.

*A-F Grading*

*Effective term: Fall 2013*

**MUS 499 - Cooperative Professional Practice in Music**

2-6 credits

Students work full-time or part-time in a music business or industry. This experience is supervised by the ISU Professional Practice Office.

**Prerequisites:** 30 semester credits or consent of advisor; 2.5 cumulative GPA for all music courses as well as for all University courses; passing performance on the Keyboard Proficiency Examination. MUS 448 and 4 credits of 468; completion of all freshman and sophomore music requirements.

**Note:** Six hours are required for the B.S. in music with a concentration in merchandising or business administration. For the Professional-Vocational Curriculum, Music Major with Concentration in Composition. Presentation of a whole recital of original compositions during the semester enrolled; concurrent enrollment in 468.

*Change credits and prerequisites to:*

**MUS 499 - Cooperative Professional Practice in Music**

12 credits

Students work full-time or part-time in a music business or industry. This experience is supervised by the ISU Professional Practice Office.

**Prerequisites:** 2.5 cumulative GPA for all music courses as well as for all University courses; passing performance on the Keyboard Proficiency Examination. Concurrent enrollment in MUS 468.

*A-F Grading*

*Effective term: Fall 2013*

**COLLEGE OF TECHNOLOGY: Aviation Technology**

**AVT 381 - Introduction to Unmanned Systems Operations**

3 credits.

An introduction to unmanned systems operations. This will include a historical perspective and background information of Unmanned Aerial Systems (UAS). UAS modeling and control fundamentals, ground based systems, visual and electro-optical aspects of navigation, obstacle and terrain avoidance systems, modular on-board processing systems, and current applications. This course will also expose the student to the significant regulations impacting the unmanned systems operations.

**Prerequisites:** Consent of instructor.

**Note:** Students must pay an additional laboratory fee for this class.

*Change number and prerequisites to:*

**UMS 281 - Introduction to Unmanned Systems Operations**

3 credits.

An introduction to unmanned systems operations. This will include a historical perspective and background information of Unmanned Aerial Systems (UAS). UAS modeling and control fundamentals, ground based systems, visual and electro-optical aspects of navigation, obstacle and terrain avoidance systems, modular on-board processing systems, and current applications. This course will also expose the student to the significant regulations impacting the unmanned systems operations.

**Prerequisite:** UMS 181 or AVT 141 or consent of instructor.

**Note:** Students must pay an additional laboratory fee for this class.

*A-F Grading*

*Effective term: Fall 2014*

**AVT 481 - Advanced Unmanned Aerial Systems Operations**

3 credits

A study of advanced unmanned aircraft theory. This course examines the history of unmanned systems with an emphasis on military developments. It also includes safety assessment, functional requirements, unmanned aerial systems integration, and sensitivity analysis. Students are expected to demonstrate proficiency in unmanned aerial systems programming, preflight, flight operations, post-flight inspection, and mission analysis and debriefing.

**Prerequisites:** AVT 381 or consent of instructor.

**Note:** Students must pay an additional laboratory fee for this class.

*Change number and prerequisites to:*

**UMS 491 - Advanced Unmanned Aerial Systems Operations**

3 credits

A study of advanced unmanned aircraft theory. This course examines the history of unmanned systems with an emphasis on military developments. It also includes safety assessment, functional requirements, unmanned aerial systems integration, and sensitivity analysis. Students are expected to demonstrate proficiency in unmanned aerial systems programming, preflight, flight operations, post-flight inspection, and mission analysis and debriefing.

**Prerequisites:** UMS 483, UMS485, or consent of instructor.

**Note:** Due to the International Traffic in Arms Regulations (ITAR) imposed by the State Department of the United States, this course is only open to U.S. citizens. Students must pay an additional laboratory fee for this class.

*A-F Grading*

*Effective term: Fall 2014*

**COURSE BANKING**

**COLLEGE OF ARTS AND SCIENCES: School of Music**

**MUS 395 - Secondary Accompanying**

**MUS 415 - General Music Techniques in the Classroom**

*A-F Grading*

*Effective term: Fall 2013*

## **NEW PROGRAMS**

### **BAYH COLLEGE OF EDUCATION: Elementary, Early, and Special Education**

#### **Special Education Major (49 credits)**

**CIP Code: Major Code:**

#### **Brief Summary:**

Recent legislative changes are causing the special education coverage area to change from K-12 to P-12. This means that courses need to be revamped in order that our teacher candidates be prepared to address the needs of a new student population. Further, at this time, the only teacher candidates at Indiana State University who are able to attain special education licensure through their undergraduate program are elementary education candidates. There is no way for a secondary (content area) or an all-grade teacher candidate to attain licensure in special education. The new program is a stand-alone special education licensure program of 40-43 hours. Thus, we will be able to offer special education licensure to any education major; in fact we encourage candidates to double major in special education and another area in order to make themselves as marketable as possible upon graduation.

#### **Student Learning:**

Recent Praxis II results indicate that although our teacher candidates pass the Praxis II at a level of 95% to 100% overall, their scores are at or below the state and national averages for the areas of Understanding Exceptionalities, Assessment, Curriculum & Instruction, Structuring & Managing the Learning Environment, and Delivery of Services to Students with Disabilities. Further analysis indicates that the scores for our teacher candidates primarily fall into the 3rd and 4th quartiles overall. Although the topics of Assistive Technology, Universal Design for Learning and Differentiated Instruction have been addressed in other courses, the faculty members feel that a new course dedicated to these topics is an appropriate response to the data. Further, adding specific courses addressing reading and math from a special education paradigm provides for content instruction that is deeper in these areas further strengthening the performance of our teacher candidates. The addition of an Advanced Behavior Management course will serve to meet the needs of beginning teachers who are frequently hired into classrooms that deal with students who still fall within the mild intervention category, but have challenging behaviors. Feedback from our graduates indicate that this is a placement wherein they frequently find their first professional position. The legislative change for all-grade programs from a K-12 perspective to a P-12 perspective makes it imperative that we address that population of students; three and four year old students differ significantly from students in Kindergarten and we feel that the course Preschool Special Education in conjunction with the other courses will serve to prepare our teacher candidates to meet the needs of school systems for several years to come.

#### **Proposed Catalog Copy:**

## **Special Education Major (49 credits)**

### **CIP Code: Major Code:**

Special Education majors at Indiana State University will find a robust program that prepares them for licensure at the preschool-12th grade levels in Indiana. Students participating in this major are required to take a minimum of 49 credit hours in education, including student teaching.

It is strongly recommended that students enroll in another education content area in addition to special education to increase marketability after graduation (i.e. Elementary Education, Math Education, Science Education, etc.). Students must be admitted to BCP-I in order to register for Special Education courses other than SPED 203 and SPED 226. Students must be admitted to BCP-II in order to register for Student Teaching.

### **Major Courses (49 credits minimum):**

A grade of C or better is required in each course as well as a minimum grade point average of 2.5.

The professional education component in special education consists of three specific areas of classwork. Each subsequent area has the previous area as a prerequisite. Area I courses are those that can be taken prior to admission to Becoming a Complete Professional I. Area II courses are those that require admission to Becoming a Complete Professional I. Area III courses require the student to be eligible for Becoming a Complete Professional II.

Early and continuous experiences with children in school settings are included throughout the professional education component and are an integral part of the professional courses. These practicum experiences are required to successfully complete each professional course. A practicum experience may be required of any SPED designated course. Students completing a double major with another teaching area may be exempted from some of these courses.

#### **Area I (9 credits)**

SPED 203—Preschool Special Education, 3 credits

SPED 226—The Exceptional Learner in the Regular Classroom, 3 credits

EPSY 202—Childhood and Adolescent Psychology, 3 credits (May count as Foundational Studies credit)

#### **Area II (28 credits)**

SPED 215—Behavior Management, 3 credits

SPED 216—Collaborative Teaching & Technology, 3 credits

SPED 314— Math Strategies & Assessment, 3 credits

SPED 318— Differentiated Reading, 3 credits OR approved substitution

SPED 321—Special Education Law & Procedures, 3 credits

SPED 400—Secondary School, Community, and Family Interactions, 3 credits

SPED 425—Advanced Behavior Management, 3 credits

CIMT 400—Teaching III, 3 credits

CIMT 400L—Teaching III Practicum, 1 credit

EPSY 341, Education in a Multicultural Society, 3 credits (May count as Foundational Studies credit)

### **Area III—Student Teaching (minimum of 12 credits)**

SPED 405—Supervised Student Teaching in Elementary Education Inclusive Setting and Special Education Resource Setting—Mild Interventions 5-13 credits

SPED 457—Capstone Course, 3 credits

**NOTE:** Students who will complete the Special Education Major as a double major with Elementary Education do not need to take SPED 457 or SPED 318. Students completing the Special Education Major with a secondary content area do not need to take SPED 457 or SPED 203.

*Effective term: Fall 2013*

## **PROGRAM REVISIONS**

### **BAYH COLLEGE OF EDUCATION: Elementary, Early, and Special Education**

#### **Elementary Education Major (124 credits)**

**CIP Code: 13-1202 Major Code: 8452 (BA-BS)**

#### **Brief Summary:**

This revision ensures that the program meets the 120 credit limit for programs of study. The hours for elective courses for additional license areas was reduced from 12 hours minimum to 6 hours minimum.

#### **Student Learning:**

Programs are required to meet 120 hour credit limit.

#### **Proposed Catalog Copy:**

#### **Elementary Education Major (85 credits minimum)**

**CIP Code: 13-1202 Major Code: 8452 (BA-BS)**

The student who desires to be an elementary teacher must remain in good standing in the Teacher Education Program and complete the program outlined below which will satisfy requirements for the bachelor of science degree or the bachelor of arts degree, provided the foreign language requirement is fulfilled. Satisfactory completion of the program will also make the individual eligible for the Standard Instructional License in the state of Indiana provided that the individual satisfies the test requirements. Upon completion of this degree, the holder can be licensed in the elementary, primary, and intermediate school setting.

#### **Required Subject Matter (29 credits minimum)**

- An approved Fine Arts class 3-4 credits.
- COMM 302 - Speech Communication for the Teacher 3 credits. (May fulfill Foundational Studies)
- EPSY 341 - Education in a Multicultural Society 3 credits (May fulfill Foundational Studies)
- HLTH 327 - School Health for the Elementary Teacher 3 credits
- MATH 205 - Mathematics for Elementary Teachers I 3 credits (May not be taken by correspondence)
- MATH 305 - Mathematics for Elementary Teachers II 3 credits (may not be taken by correspondence)
- MUS 325 - Music in the Education of Children 3 credits
- PE 348 - Methods of Teaching Physical Education in Elementary Schools 2 credits
- ENG 280 - Children's Literature 3 credits.

**Choose one from the following:**

- HIST 201 - The United States to 1877 3 credits (May fulfill Foundational Studies)
- HIST 202 - The United States since 1865 3 credits (May fulfill Foundational Studies)

A grade of C or better is required in each course as well as a minimum grade point average of 2.5.

**Professional Education Component (56 credits minimum)**

The professional education component in elementary education consists of a sequential pattern of course work integrated into phases. Each subsequent phase has the previous phase as a prerequisite. Prior to enrolling in Phase II, the student must have been admitted to Becoming a Complete Professional I. Early and continuous experiences with children in school settings are included throughout the professional education component and are an integral part of the professional courses. These practicum experiences are required to successfully complete each professional course, but do not carry course credit.

- ELED 335 – Early Childhood Teaching and Learning in the Kindergarten, 3 credits

**Select one of the following Exceptional Learning Courses:**

- ELED 437 – Early Childhood: Theories and Practices in Working with Exceptional Children, 3 credits
- SPED 102 – Introduction to Special Education, 3 credits
- SPED 226 – The Exceptional Learner in the Regular Classroom, 3 credits

**Phase I – 6 credits**

- ELED 101 – Introduction to Teaching, 1 hour
- ELED 200 – Best Practices in Teaching, 2 credits
- EPSY 202 – Psychology of Childhood and Adolescence, 3 credits

**Phase II – 8 credits – Admission to BCP I**

- ELED 250 – Teaching-Learning and Classroom Management, 3 credits
- ELED 250L – Teaching-Learning and Classroom Management, 0 credits
- ELED 259 – Measurement and Evaluation in the Elementary School, 2 credits
- ELED 324 – Emergent Literacy, 3 credits

**Phase III – 18 credits**

- ELED 392 – The Teaching of Elementary School Social Studies, 3 credits
- ELED 394 – The Teaching of Elementary School Mathematics, 3 credits
- ELED 397 – Teaching Developmental Reading and Other Language Arts, 3 credits
- ELED 398 – Corrective Reading in the Classroom, 3 credits
- ELED 400 – Theory to Practice, 3 credits
- SCED 393 – Science in the Elementary School, 2 credits
- SCED 393L – Science in the Elementary School Laboratory, 1 hour

**Student Teaching – 12 credits**

- ELED 451 – Supervised Teaching, 6 credits
- ELED 453 – Supervised Teaching, 3 credits
- ELED 457 – Elementary and Special Education Capstone, 3 credits

**Electives and Courses for Additional License Area (6 credits minimum)**

- Special Education
- Reading
- Early Childhood
- English as a New Language
- Middle School Math
- Other approved licensed area

*Effective term: Fall 2013*

## **COLLEGE OF TECHNOLOGY: Aviation Technology**

### **Unmanned Systems Minor (18 credits)**

**CIP Code: 490104 Major Code: D508**

#### **Brief Summary:**

The proposed curriculum is a revision of the current Unmanned Systems minor. The current Unmanned Aerial Systems minor does not sufficiently prepare students to meet the requirements in the field. In addition, the faculty feel the minor should be strengthened by the addition of courses and correct the ability for Aviation majors to fulfill the minor requirements by simply completing two or three classes.

The proposed changes to the curriculum are designed to prepare students to meet the requirements to become a knowledgeable professional/operator and/or expand their career opportunities in their respective field. Fields may include aviation, criminology, earth and environmental science, computer science, electrical and computer engineering technology, and many others.

#### **Student Learning:**

The review and revision of the Minor in Unmanned Systems changes the curriculum to prepare students to meet the requirements to be a professional/operator in the field and strengthens the program. The current program allows Aviation Majors to complete the major by taking only 2 or 3 courses and does not really allow Non-Aviation Majors to participate successfully. These revisions will eliminate the inequalities for all and open the minor to many students across the campus who are requesting the ability to complete the minor.

#### **Proposed Catalog Copy:**

### **Unmanned Systems Minor (21 -24 credits)**

**CIP Code: 490104 Major Code: D508**

The Unmanned Systems minor includes an introduction to unmanned systems operations and a study of advanced unmanned aircraft theory. Additional, areas of unmanned aerial systems (UAS) modeling and control fundamentals, ground based systems, visual and electro-optical aspects of navigation, obstacle and terrain avoidance systems, modular on-board processing systems, and current applications are explored.

Students learn about the significant regulations impacting the unmanned systems operations and the differences with manned systems. Paramount to all aviation operations, safety assessment, functional requirements, system integration, and sensitivity analysis are explored. Students demonstrate proficiency in unmanned systems programming, preflight, flight operations, post flight inspection, and mission analysis and debriefing.



**Note:** Due to the International Traffic in Arms Regulations (ITAR) imposed by the State Department of the United States, UMS 483, UMS 485, and UMS 491 are only open to U.S. citizens. An additional laboratory fee applies all laboratory classes.

**Required courses**

UMS181 – Principles of Flight for Non-Aviation Majors - 3 credits

or

AVT141 Private Pilot Theory - 6 credits

UMS281 – Introduction to Unmanned Systems Operations - 3 credits

UMS382 – Mechanics of Unmanned Systems - 3 credits

UMS385 – Human Factors of Unmanned Systems - 3 credits

UMS483 – Payloads and Sensors 3 credits

UMS485 – Communications and Data Links - 3 credits

UMS491 - Advanced Unmanned Aerial Systems Operations - 3 credits

*Effective term: Fall 2014*

## **GRADUATE PROPOSALS**

### **COURSE REVISIONS**

#### **BAYH COLLEGE OF EDUCATION: Curriculum, Instruction, and Media Technology**

##### **EPSY 713 - Multivariate Statistics and Advanced Research Design**

3 credits

Multivariate statistics including canonical correlation, multivariate analysis of variance, discriminant function analysis, factor analysis, and other advanced multivariate analyses, as well as advanced research design and related issues. Students learn to use computer software to analyze their data, and to interpret computer output.

**Prerequisite:** 712 or equivalent.

*Change prerequisites to:*

##### **EPSY 713 - Multivariate Statistics and Advanced Research Design**

3 credits.

Multivariate statistics including canonical correlation, multivariate analysis of variance, discriminant function analysis, factor analysis, and other advanced multivariate analyses, as well as advanced research design and related issues. Students learn to use computer software to analyze their data, and to interpret computer output.

**Prerequisite:** EPSY 712, PSY 604, or consent of instructor.

*A-F Grading*

*Effective term: Fall 2013*

#### **COLLEGE OF ARTS AND SCIENCES: School of Music**

##### **MUS 560 - Arranging for Band**

2 credits

The technical and tonal resources of band instruments, with practical exercises in scoring.

**Prerequisites:** Satisfactory score on the Graduate Placement Examination in Music Theory or

successful completion of 601.

*Change title and description to:*

**MUS 560 - Orchestration**

2 credits

Scoring for orchestral instruments: strings, woodwinds, brass, and percussion; score analysis and realization.

**Prerequisite:** Satisfactory score on the Graduate Placement Examination in Music Theory or successful completion of 601.

*A-F Grading*

*Effective term: Fall 2013*

**COLLEGE OF TECHNOLOGY: Applied Engineering and Technology Management**

**MET 513 - Application and Gaging of Geometric Dimensioning and Tolerancing**

3 credits

The ISO and ANSI technical graphic standards are studied and applied to assemblies with specific design requirements. The course primarily addresses methods of calculating positional and the geometric form tolerances. Methods of verifying the geometric controls by gaging and inspection are also studied.

**Prerequisites:** MET 403.

*Change prerequisites to:*

**MET 513 - Application and Gaging of Geometric Dimensioning and Tolerancing**

3 credits

The ISO and ANSI technical graphic standards are studied and applied to assemblies with specific design requirements. The course primarily addresses methods of calculating positional and the geometric form tolerances. Methods of verifying the geometric controls by gaging and inspection are also studied.

**Prerequisites:** Graduate standing.

*A-F Grading*

*Effective term: Fall 2013*

**MET 605 - Advanced Economic Analysis for Technology**

3 credits

Objectives of technology firms; advanced treatment of interest and equivalence including continuous cash flows, inflation, depreciation, replacement, taxation, selecting MARR, deterministic and stochastic alternative selection, decision under risk and uncertainty, utility theory, and capital budgeting models specific to technology investments; public sector investments and public utilities.

**Prerequisites:** 405/505 or equivalent.

**Note:** Students should have knowledge of basic economic and management concepts and adequate background in algebra and statistics. Prerequisite: 405/505 or equivalent.

*Change title and prerequisites to:*

**MET 605 - Advanced Economic Analysis for Engineering and Technology**

3 credits

Objectives of technology firms; advanced treatment of interest and equivalence including continuous cash flows, inflation, depreciation, replacement, taxation, selecting MARR, deterministic and stochastic alternative selection, decision under risk and uncertainty, utility

theory, and capital budgeting models specific to technology investments; public sector investments and public utilities.

**Prerequisites:** MET 505 or equivalent.

*A-F Grading*

*Effective term: Summer I 2013*

## **COURSE REACTIVATIONS**

### **BAYH COLLEGE OF EDUCATION: Curriculum, Instruction, and Media Technology**

#### **CIMT 800 – Research Seminar**

3 credits

A required course for doctoral students in curriculum and instruction. Attention will be given to identification of research problems, research design, and methodology in quantitative, qualitative, and mixed-methods research.

**Note:** Required doctoral inquiry courses must be completed with a "B" or better prior to taking CIMT 800. Concurrent enrollment in EPSY 712 or EPSY 711 or equivalent is permissible.

*A-F Grading*

*Effective term: Fall 2013*

## **COURSE BANKING**

### **BAYH COLLEGE OF EDUCATION: Curriculum, Instruction, and Media Technology**

#### **CIMT 800b – Research Seminar: Quantitative Research**

3 credits

A required course for doctoral students in curriculum and instruction. Attention will be given to identification of research problems, research design, and methodology. Topics of the two seminars are: A. Research Seminar: Qualitative Research, and B. Research Seminar: Quantitative Research.

*A-F Grading*

*Effective term: Fall 2013*

## **PROGRAM REVISIONS**

### **BAYH COLLEGE OF EDUCATION: Curriculum, Instruction, and Media Technology**

#### **Curriculum and Instruction Ph. D. (CIMT) (72 credits)**

**CIP Code: 130301 Major Code: 8394**

#### **Brief Summary:**

In changing a course title/description within the program, the entire catalog copy has to be approved as it reflects that change. This responds to changing a single required course, CIMT 800b, to CIMT 800. The course proposal change has gone forward.

#### **Proposed Catalog Copy:**

**Curriculum and Instruction Ph. D. (CIMT) (72 credits)**

**CIP Code: 130301 Major Code: 8394**

**Degree Requirements:**

**A. Foundational Studies (6 credits minimum):**

To develop competencies through understanding of contributions from philosophical, sociological, historical, and psychological foundations of education.

Courses:

- Doctoral Level Foundations Course (3 credits)
- Foundations Specific Elective (3 credits)

**B. Inquiry Studies (12 credits minimum):**

To develop required competency in statistics, measurement, and research in education.

- CIMT 610 - Research in Education 3 credits
- CIMT 800 - Research Seminar 3 credits

**Choose one from the following groups (minimum grade of “B” required in each group):**

- EPSY 612 - Statistical Methods 3 credits
- EPSY 712 - Statistical Inference 3 credits

**or**

- EPSY 710 - Introduction to Qualitative Methods of Inquiry 3 credits
- EPSY 711 - Advanced Qualitative Methods and Inquiry 3 credits

**C. Core Area—Curriculum and Instruction (24 credits minimum):**

To provide the knowledge and understanding essential to every specialist in curriculum, instruction, and supervision.

- CIMT 620 - Instructional Design 3 credits
- CIMT 660 - Curriculum Fundamentals 3 credits
- CIMT 720 - Advanced Instructional Design 3 credits
- CIMT 860 - Seminar in Curriculum Theory 3 credits
- CIMT 862 - Seminar in Instructional Theory and Research in Secondary Education 3 credits
- CIMT 868 - Seminar in Postsecondary Teaching 3 credits

**Content specific and/or recommended directed electives (6 credits):**

- CIMT 658 - Social and Political Influences on Classroom Practices 3 credits
- CIMT 665 - Instructional Innovation 3 credits
- CIMT 675 - Supervision of Instruction 3 credits
- CIMT 689 - Learning Theory and Instructional Strategies 3 credits
- CIMT 740 - The Technology of Distance Learning 3 credits
- CIMT 770 - Curriculum Development 3 credits
- CIMT 864 - Seminar in Supervision and Instructional Leadership in Secondary Education 3 credits
- CIMT 866 - Seminar in Teacher Preparation 3 credits

**D. Area of Concentration (24 credits minimum):**

To enable the student to develop either (a) further study in curriculum, instruction, or supervision, or (b) a specialized program emphasizing an academic area as appears below.

**Approved concentrations**

If a course or set of courses is required, that notation appears with the area of concentration.

Early Childhood Education

Educational Technology

Elementary Education

**English Education**

A balance of course work in the three main subdivisions of English studies (literature, language, composition/rhetoric) is required in this area. Specific courses in the Department of English provide students with an overview of English studies: English 510 or 600 (chosen in consultation with the advisor), and English 635, and English 685. Other English course requirements in this area are broadly defined, allowing students to specialize in composition or an area of literature.

**History Education**

Courses in the area of application must include at least one two-course sequence (6 credits) from Section 1, a minimum of 3 credits (History 650 required) and a maximum of 9 credits from Section 2, a minimum of 3 credits from Section 3, and a minimum of 3 credits from Section 4.

**Section 1**

- a. History 620, Proseminar: The United States 3 credits, and History 621, Seminar: The United States 3 credits
- b. History 660, Proseminar: Modern Europe 3 credits, and History 661, Seminar: Modern Europe 3 credits

c. History 670, Proseminar: The Wider World 3 credits, and History 671, Seminar: The Wider World 3 credits

## **Section 2**

- a. History 650, Historical Method and Theory 3 credits
- b. Social Sciences 604, Improving Social Science Instruction 2-3 credits
- c. Social Sciences 605, Seminar in Social Studies Education 1-6 credits
- d. Social Sciences 606, Social Studies Curriculum 2-3 credits
- e. Social Sciences 607, Instructional Materials in Social Studies 2-3 credits
- f. Social Sciences 608, Readings in Social Science Education 1-3 credits

## **Section 3**

- a. History 622, Seminar on Popular Movements in the United States I 3 credits
- b. History 623, Proseminar: Topics in United States History 3 credits
- c. History 690, History Workshop 1-6 credits
- d. History 695, Readings in History 2-3 credits

## **Section 4**

- a. History 720, Major Issues in United States History 3 credits
- b. History 782, Major Issues in World History 3 credits

Industrial Technology Education

Mathematics Education

Secondary Education

Language Education

## **Post-Secondary Teaching and Learning**

- Recommended courses:
- EDLR 687 - Higher Education in the United States 3 credits
- EDLR 752 - Organization and Governance in Higher Education 3 credits
- EDLR 763 - Student Seminar on Students in Higher Education 3 credits
- EDLR 786 - Academic Leadership in Higher Education 3 credits

## **Special Education**

The concentration in special education requires 24 graduate credits in the field of special education. Students take 12 credits from:

- SPED 685 - Grant Development and Program Evaluation 3 credits
- SPED 690 - Directed Study in Special Education 1-3 credits
- SPED 695 - Research in Special Education 3 credits

- SPED 698 - Advanced Topics in Special Education 1-3 credits
- SPED 790 - Individual Research and Study I 3 credits
- An additional 12 credits in graduate courses as directed by the doctoral committee is required to complete additional prerequisite course work.

### **Literacy Education**

The concentration in literacy education requires a minimum of 24 graduate credits in the fields of literacy education. Students complete:

- ELED 670 - Leadership of Reading Programs 3 credits
- ELED 681 - Literacy Assessment 3 credits
- ELED 682 - Literacy Theory and Research 3 credits
- ELED 685 - Literacy Intervention Strategies 3 credits
- ELED 686 - Building Innovative Curriculum in Literacy (Writing) 3 credits
- ELED 690 - Individual Study in Elementary Education 1-3 credits
- ELED 890 - Individual Research and Study 2-4 credits
- SPED 685 - Grant Development and Program Evaluation 3 credits

### **Sport Management**

The concentration in sport management requires a minimum of 24 graduate credits in the field of sport management. Students will complete:

- SPM 620 - Sport Facility Design 3 credits
- SPM 621 - Administrative Theory in Sport 3 credits
- SPM 622 - Sport Finance 3 credits
- SPM 623 - Sport Law and Risk Management 3 credits
- SPM 624 - Sport Marketing 3 credits
- SPM 631 - Organizational Leadership 3 credits
- SPM 635 - Governance and Compliance 3 credits
- SPM 637 - Sport Media Relations 3 credits

### **E. Related Studies (0-6 credits):**

Courses from content areas may be selected to enhance special competencies in the area of specialization. Independent study, field experiences, and internship assignments are utilized in this program as a means for achieving thorough preparation and competence. The final program

for each student is cooperatively developed by the student, the advisor, and the doctoral committee.

*Effective term: Fall 2013*

## **BAYH COLLEGE OF EDUCATION: Curriculum, Instruction, and Media Technology**

### **Curriculum and Instruction Ph. D. (CIMT) (72 credits)**

**CIP Code: 130301 Major Code: 8394**

#### **Brief Summary:**

The purpose of this proposal is to add another concentration (science education) to the Ph.D. in Curriculum and Instruction program.

#### **Student Learning:**

The proposal for the addition of the science education concentration is not driven by student assessment outcomes. Rather, the proposal emerges from inquiries from individuals who wish to pursue a doctoral degree with a science education focus. The majority of inquiries come from students who are currently practicing science teachers who wish to increase their knowledge-base in order to take leadership roles in public schools and school districts, and in state and national learned societies associated with science education. A portion of inquiries are also from individuals who indicate a desire to take responsibility for teaching science methods courses in teacher education programs. The format of the current Ph.D. program in Curriculum and Instruction provides a logical foundation to address the needs articulated by this population.

The Ph.D. in Curriculum and Instruction allows for substantive coursework in both curriculum and instruction (minimum of 24 credits), and in the area of concentration, in this case, science education (minimum of 24 credits). Moreover, the program allows for advisement in the area of concentration by content/discipline faculty in addition to advisement by the Dept. of Curriculum, Instruction, and Media Technology. The dissertation allows for further inquiry into science education, and guidance may be provided by both curriculum and science faculty.

#### **Proposed Catalog Copy:**

### **Curriculum and Instruction Ph. D. (CIMT) (72 credits)**

**CIP Code: 130301 Major Code: 8394**

#### **Degree Requirements:**

##### **A. Foundational Studies (6 credits minimum)**

To develop competencies through understanding of contributions from philosophical, sociological, historical, and psychological foundations of education.

#### **Courses:**



Doctoral Level Foundations Course (3 credits)

Foundations Specific Elective (3 credits)

**B. Inquiry Studies (12 credits minimum)**

To develop competency in statistics, measurement, and research in education.

**Courses:**

CIMT 610 (3 credits) required

CIMT 800 (3 credits) required

Choose one of the following groups:

Quantitative Analysis: EPSY 612 (3 credits), EPSY 712 (3 credits); minimum grade of “B” required in each course

**OR**

Qualitative Analysis: EPSY 710 (3 credits), EPSY 711 (3 credits); minimum grade of “B” required in each course

**C. Core Area—Curriculum and Instruction (24 credits minimum)**

To provide the knowledge and understanding essential to every specialist in curriculum, instruction, and supervision.

**Courses:**

Curriculum: CIMT 660 (3 credits), CIMT 860 (3 credits)

Design: CIMT 620 (3 credits), CIMT 720 (3 credits)

Instruction: CIMT 862 (3 credits), CIMT 868 (3 credits)

C&I: Content specific and/or directed electives (6 credits). Recommended electives include CIMT 665 (3 credits), 675 (3 credits), 689 (3 credits), 740 (3 credits), 770 (3 credits), 864 (3 credits), 866 (3 credits).

**D. Area of Concentration (24 credits minimum)**

To enable the student to develop either (a) further study in curriculum, instruction, or supervision, or (b) a specialized program emphasizing an academic area as appears below.

**Approved concentrations**

If a course or set of courses is required, that notation appears with the area of concentration.

Early Childhood Education

Educational Technology

Elementary Education

English Education

A balance of course work in the three main subdivisions of English studies (literature, language, composition/rhetoric) is required in this area. Specific courses in the Department of English provide students with an overview of English studies: English 510 or 600 (chosen in consultation with the advisor), and English 635, and English 685. Other English course requirements in this area are broadly defined, allowing students to specialize in composition or an area of literature.

### **History Education**

Courses in the area of application must include at least one two-course sequence (6 credits) from Section 1, a minimum of 3 credits (History 650 required) and a maximum of 9 credits from Section 2, a minimum of 3 credits from Section 3, and a minimum of 3 credits from Section 4.

#### **Section 1**

- a. History 620, Proseminar: The United States 3 credits, and History 621, Seminar: The United States 3 credits
- b. History 660, Proseminar: Modern Europe 3 credits, and History 661, Seminar: Modern Europe 3 credits
- c. History 670, Proseminar: The Wider World 3 credits, and History 671, Seminar: The Wider World 3 credits

#### **Section 2**

- a. History 650, Historical Method and Theory 3 credits
- b. Social Sciences 604, Improving Social Science Instruction 2-3 credits
- c. Social Sciences 605, Seminar in Social Studies Education 1-6 credits
- d. Social Sciences 606, Social Studies Curriculum 2-3 credits
- e. Social Sciences 607, Instructional Materials in Social Studies 2-3 credits
- f. Social Sciences 608, Readings in Social Science Education 1-3 credits

#### **Section 3**

- a. History 622, Seminar on Popular Movements in the United States I 3 credits

b. History 623, Proseminar: Topics in United States History 3 credits

c. History 690, History Workshop 1-6 credits

d. History 695, Readings in History 2-3 credits

#### **Section 4**

a. History 720, Major Issues in United States History 3 credits

b. History 782, Major Issues in World History 3 credits

Industrial Technology Education

Math Education

Secondary Education

Language Education

Post Secondary Teaching and Learning

#### **Recommended courses:**

ELAF 687 - Higher Education in the United States

ELAF 752 - Organization and Governance in Higher Education

ELAF 763 - Seminar on Students in Higher Education

ELAF 786 - Academic Leadership in Higher Education

#### **Special Education**

The concentration in special education requires 24 graduate credits in the field of special education. Students take 12 credits from:

SPED 685 - Grant Development and Program Evaluation

SPED 690 - Directed Study in Special Education

SPED 695 - Research in Special Education

SPED 698 - Advanced Topics in Special Education

SPED 790 - Individual Research and Study I s

An additional 12 credits in graduate courses as directed by the doctoral committee are required to complete additional prerequisite course work.

#### **Literacy Education**

The concentration in literacy education requires a minimum of 24 graduate credits in the fields of literacy education. Students complete:

ELED 670 - Leadership of Reading Programs

ELED 681 - Literacy Assessment

ELED 682 - Literacy Theory and Research

ELED 685 - Literacy Intervention Strategies

ELED 686 - Building Innovative Curriculum in Literacy (Writing) 3 credits

ELED 690 - Individual Study in Elementary Education 1-3 credits

ELED 890 - Individual Research and Study 2-4 credits

SPED 685 - Grant Development and Program Evaluation 3 credits

### **Sport Management**

SPM 620 - Sport Facility Design

SPM 621 - Administrative Theory in Sport

SPM 622 - Sport Finance

SPM 623 - Sport Law and Risk Management

SPM 624 - Sport Marketing

SPM 631 - Organizational Leadership

SPM 635 - Governance and Compliance

SPM 637 - Sport Media Relations

### **Science Education**

The concentration in science education requires a minimum of 24 graduate credits across the fields of science (earth and environmental, biology, chemistry, and physics) and science education. Students may complete credits by selecting courses across the disciplines in science but must also complete 6 credits from:

SCED 673—Topics in Science Education

SCED 680—Problems and Research in the Teaching of Science

To comprise the requisite 24 credits, an additional 18 credits in graduate courses in the fields of science and science education as directed by the major and concentration advisor are required.

## **E. Related Studies (0-6 credits)**

Courses from content areas may be selected to enhance special competencies in the area of specialization. Independent study, field experiences, and internship assignments are utilized in this program as a means for achieving thorough preparation and competence. The final program for each student is cooperatively developed by the student, the advisor, and the doctoral committee.

*Effective term: Fall 2013*

## **COLLEGE OF TECHNOLOGY: Built Environment**

### **Certificate in Safety Management (12 credits)**

**CIP Code: 150701 Major Code:**

#### **Brief Summary:**

The proposed Certificate in Safety Management is designed for students enrolled in an ISU Graduate Program (except for Occupational Health and Safety majors) who want to study and apply the principles of workplace safety and US governments regulations for occupational safety in their professional career.

The Certificate will be awarded only to students who have completed their major Graduate Program and 12 hours of required courses in the Safety Management Program.

The proposed Certificate in Safety Management includes the following web courses (3 hrs each):

SFTY 606, Human Factors/Ergonomics in Safety Management, is a hybrid course (web and lecture) covering Human Factors and Ergonomics in Safety Management. The course is an inquiry into the physiological, behavioral, and environmental variables which affect occupational health and safety. (Elective)

SFTY 608, Safety Legislation, Litigation, and Compliance, is a web course representing a guideline of organizational and legislative aspects of Industrial Health and Safety to maintain accident protection and prevention in buildings, industrial and construction sites. (Required)

SFTY 610, Safety Inspections, Assessment, and Control, is a web course designed to prepare students for the development and administration of health and safety programs in the workplace. The primary focus of the course is on fundamental principles and concepts of the theory and application of safety management methods and techniques to develop Occupational Safety programs for a variety of industries to comply with US government regulations and standards. (Elective)

SFTY 616, Administration Methods and Procedures for Occupational Safety Management Programs, is a web course representing an overview of the concepts and methodology of supervisory methods and techniques to develop leadership qualities, to promote human relations, and to upgrade contributions of employee personnel involved in various types industrial safety

programs. The course is designed to prepare students for the development and administration of industrial safety programs in the workplace and impart an understanding of the development and use of safety program to improve the safety performance of an organization. (Elective)

SFTY 627, Safe Transportation and Management of Hazardous Materials, is a web course representing guidelines of organizational and legislative aspects of handling of hazardous materials at workplace to maintain accident protection and prevention by establishing effective management of hazardous materials use, storage, transportation, and disposal. (Elective)

SFTY 628, Fire Science and Protection Systems, is a web course representing an overview of the concepts and methodology of fire protection methods and techniques. The course is designed to give students a guideline of organizational and engineering aspects of fire protection and prevention. Emphasis is placed on the basic concepts of recognition, evaluation, and control of fire hazards in buildings, industrial and construction sites. (Elective)

SFTY 630, Foundations of Occupational Safety and Health Management, is a web course covering the foundation of occupational health and safety management. The course provides an understanding of the fundamental concepts in accident theory and prevention. There is an emphasis on the identification and development of comprehensive occupational health and safety management programs. (Required)

### **Student Learning:**

The proposed Certificate in Safety Management Program will prepare students to carry or share responsibilities in occupational safety management for various industries.

Upon successful completion of the proposed Certificate in Safety Management program, students will be able to understand (use):

- Federal Acts and regulations for occupational safety.
- Importance of accident prevention to the safety professional.
- The impact of federal regulations of accident prevention and fire protection.
- Safety and environment and fire protection standards.
- Procedure for recordkeeping and reporting in industrial safety.
- Employer and employees responsibilities and rights.
- Industrial Hygiene recognition, evaluation, and control procedures.
- Recognition of solvents, dust, vapors, mists, and fume hazards.
- Evaluation of airborne contaminant hazards.
- Selection, care, use, and maintenance of personal protective equipment.
- Application safety inspection and audit fundamentals and concepts and terms associated with safety inspection and audit.
- Identification major occupational and fire hazards at facilities.
- Identification and application safety management program elements, procedure, and implementation at different levels of organization.
- Major safety requirements for records and documentation, OSHA Forms for log of work-related injuries and illnesses and injury and illness incident report.
- Effective methods, key techniques, procedures, and documentation for conducting safety

training.

- Major safety requirements for OSHA Hazard Communication Standard.
- Safety training program elements, procedure, and implementation.
- Methods used in the evaluating and assessing safety program effectiveness.
- Criteria for identification of hazards to health, life, materials, and the environment.
- Legislation pertaining to hazardous substances and wastes and definitions pertaining to these substances with respect to the law and code of federal regulations.
- Different types of chemicals with respect to hazard nature, characteristics, and controls for corrosives, organics, plastics, resins, oxidizers, explosives, water reactive materials, etc.
- Classification of materials according to United Nations and DOT Hazard Classes.
- Regulations for shipping, packaging, and labeling hazardous materials.
- OSHA requirements, standards, and regulations on hazard identification and methods of engineering and administrative control in areas containing hazardous materials.
- Concepts of human factors.
- Effects of worksite conditions on human body systems.
- Cognition and information processing.
- Learn displays and controls that can affect anthropometry in workspace design.

### **Proposed Catalog Copy:**

#### **Certificate in Safety Management (12 credits)**

**CIP Code: 150701 Major Code:**

Certificate in Safety Management is a group of four courses (12 credits combined) representing fundamental principles and concepts of the accident prevention theory and application of safety management. The courses include organizational and legislative aspects of health and safety, methods available for improving workplace health and safety through effective communication, and human factors and ergonomics to maintain accident protection. Methods and techniques give guidelines to development occupational safety programs. The Certificate includes the following:

#### **Required courses:**

SFTY 608, Safety Legislation, Litigation, and Compliance, (3 credits)

SFTY 616, Administration Methods and Procedures for Occupational Safety Management Programs, (3 credits)

#### **Elective courses:**

#### **Choose two electives from the following:**

SFTY606, Human Factors/Ergonomics in Safety Management, (3 credits)

SFTY 610, Safety Inspections, Assessment, and Control, (3 credits)

SFTY 627, Safe Transportation and Management of Hazardous Materials, (3 credits)

SFTY 628, Fire Science and Protection Systems, (3 credits)

SFTY 630, Foundations of Occupational Safety and Health Management, (3 credits).

*Effective term: Fall 2013*

## **UNDERGRADUATE APPROVALS**

### **NEW COURSES**

#### **COLLEGE OF TECHNOLOGY: Aviation Technology**

##### **AVT 319 - Technically Advanced Aircraft Lab**

1 credit

AVT 317 will introduce students to the department's glass-cockpit trainer(s). Students will apply the skills they are learning in AVT 317 to professionally operate and fly the department's glass-cockpit simulator.

**Prerequisites:** Successful completion of or concurrent enrollment in AVT317.

*A-F Grading*

*Effective term: Fall 2013*

#### **SCOTT COLLEGE OF BUSINESS: Accounting-Finance-Insurance-and Risk Management**

##### **BLAW 410 - Estate Planning**

3credits

Estate Planning focuses on the efficient conservation and transfer of wealth, consistent with the client's goals. It is a study of the legal, tax, financial and non-financial aspects of this process, covering topics such as trusts, wills, probate, advanced directives, charitable giving, wealth transfers and related taxes

**Prerequisites:** COBA, BUS202, ECON201, BUS263, FIN320, or consent of department chairperson.

*A-F Grading*

*Effective term: Fall 2013*

##### **FIN 475 - Cases in Financial Planning**

3 credits

The course develops students' knowledge and ability to work with individuals, families, and small business owners in the planning process to meet financial objectives.

Topics covered include: the financial planning process, ethics, laws and regulations, standards of professionalism, client communication, situation analysis, goal setting, assessing risk tolerance, plan development, benchmarking, plan implementation, and monitoring.

**Prerequisites:** FIN320, completion or concurrent enrollment in all other courses required for the financial planning track or consent of department chair.

**Note:** This is the capstone course in the financial planning concentration.

*A-F Grading*



*Effective term: Fall 2013*

## **COURSE REVISIONS**

### **COLLEGE OF ARTS AND SCIENCES: Biology**

#### **BIO 437 - Plant Physiology**

3 credits

Unique aspects of plant metabolism, such as water relations, mineral nutrition, photosynthesis, nitrogen metabolism, growth, and morphogenesis.

**Prerequisites:** BIO 102; Successful completion of or concurrent enrollment in 437L.

*Change prerequisites to:*

#### **BIO 437 - Plant Physiology**

3 credits

Unique aspects of plant metabolism, such as water relations, mineral nutrition, photosynthesis, nitrogen metabolism, growth, and morphogenesis.

Prerequisites: BIO 102

*A-F Grading*

*Effective term: Fall 2013*

### **COLLEGE OF ARTS AND SCIENCES: Social Science Education**

#### **SS 306 - Interdisciplinary Perspectives in Teaching Secondary Social Studies**

3 credits

Theories and practices in using interdisciplinary approaches to teaching secondary social science.

Co-requisites: SS 305

*Change credits and prerequisites to:*

#### **SS 306 - Interdisciplinary Perspectives in Teaching Secondary Social Studies**

1 credit

Theories and practices in using interdisciplinary approaches to teaching secondary social science.

**Co-requisites:** SS 305

*A-F Grading*

*Effective term: Fall 2013*

### **COLLEGE OF TECHNOLOGY: Aviation Technology**

#### **AVT 317 - Technically Advanced Aircraft**

3 credits

An introduction to technically advanced aircraft. Course includes an introduction to advanced avionics, electronic flight instruments, navigating with the use of a glass cockpit display, automated flight controls, glass cockpit information systems, component failures, and emergencies.

**Prerequisites:** Successful completion of or concurrent enrollment in AVT 243 and an instrument rating or consent of instructor.

*Change prerequisites and add co-requisite to:*

#### **AVT 317 - Technically Advanced Aircraft**

3 credits

An introduction to technically advanced aircraft. Course includes an introduction to advanced avionics, electronic flight instruments, navigating with the use of a glass cockpit display, automated flight controls, glass cockpit information systems, component failures, and emergencies.

**Prerequisites:** Successful completion of or concurrent enrollment in AVT 243 or an Instrument Rating or consent of instructor

**Co-requisite:** Successful completion of or concurrent enrollment in AVT319.

*A-F Grading*

*Effective term: Fall 2013*

## **COURSE BANKING**

### **COLLEGE OF TECHNOLOGY: Aviation Technology**

#### **AVT 241 - Advanced Navigation Systems**

3 credits

Advanced navigation systems discussed include HSI's, RMI's, Loran, Doppler, Omega, and GPS. Course also includes navigation theory, in-flight emergencies, electronic instruments, and advance flight computing problems.

Prerequisites: AVT 141 or consent of instructor.

*A-F Grading*

*Effective term: Fall 2013*

#### **AVT 245 - Instrument/Commercial Theory II**

3 credits

An introduction to commercial flight operations. Course includes advanced aircraft performance and charts, aircraft pressurization systems, weight and balance, commercial operations, commercial/instrument flight publications and regulations, and advance flight planning.

Prerequisites: AVT 241 or consent of instructor.

*A-F Grading*

*Effective term: Fall 2013*

## **PROGRAM REVISIONS**

### **COLLEGE OF ARTS AND SCIENCES: Art Major**

**Art Major (63 credits)**

**CIP Code: 500701 Major Code: 0321**

#### **Brief Summary:**

The department wishes to make the following changes to the Art History Concentration:

1. To accommodate laboratory courses added to the 200-level language courses, the requirement to take a course in literary history, music history and theater history is being changed to a choice of two of the three history areas.

2. The laboratory courses in languages will add 3 credits to the 200-level language requirements.

**Approved Catalog Copy:**

**Art Major (60-61 credits)**

**CIP Code: 500701 Major Code: 0321**

The art major for the bachelor of art/bachelor of science degree is designed for the student who desires a more general education, or a second major. The total studio credit hour requirements are fewer than those for the BFA, permitting a larger number of elective credits. This degree is designed for those who might wish subsequently to pursue the master of science or master of arts, or possibly master of fine arts degrees.

**Core Curriculum (18 credits):**

The core curriculum is a prescribed program of study required of all Art majors—BFA, BA/BS, and Art Education—and is basic to a student's choice of an area of concentration.

ARTH 271 - Survey of Art History I 3 credits

ARTH 272 - Survey of Art History II 3 credits

ARTP 170 - Introduction to the Visual Arts 3 credits

ARTS 101 - Fundamentals of Drawing 3 credits

ARTS 102 - Fundamentals of Two-Dimensional Design and Color 3 credits

ARTS 104 - Fundamentals of Three-Dimensional Design and Color 3 credits

**Required courses (9 credits)**

6 credits of art history courses

ARTH 371 – Twentieth Century Art 3 credits

**Culminating Experience:**

Students with a concentration in studio must, in their last semester, present a representative example of their work (one-two pieces) in an approved gallery setting. The work presented is evaluated by the studio faculty of the students' area of concentration and photographically documented. Students with a concentration in art history present a paper to faculty and students.

**All students must choose one of the following concentrations:**

**2-Dimensional Arts Concentration (34 credits):**

**Required:**

ARTS 215 - Fundamentals of Drawing II 3 credits

ARTS 400(B, D, E, or I) - Senior Studio 1-6 credits; only 3 credits required.

ARTP 496- Final Visual Exhibition 1-3 credits; only 1 credit required

**Choose 9 credits from the following:**

ARTS 230 - Introduction to Painting 3 credits  
ARTS 235 - Introduction to Photography 3 credits  
ARTS 240 - Introduction to Beginning Printmaking 3 credits  
ARTS 251 - Introduction to Computer Art 3 credits

**Choose 15 credits from the following:**

ARTS 316 - Intermediate Drawing 3 credits  
ARTS 317 - Drawing III: Figure Drawing 3 credits  
ARTS 331 - Intermediate Painting 3 credits  
ARTS 336 - Intermediate Photography 3 credits  
ARTS 341 - Intermediate Printmaking 3 credits  
ARTS 351 - Intermediate Computer Art 3 credits  
ARTS 415 - Advanced Drawing 3 credits  
ARTS 430 - Advanced Painting 3 credits  
ARTS 435 - Advanced Photography 3 credits  
ARTS 440 - Advanced Printmaking 3 credits  
ARTS 443 - Screenprinting 3 credits  
ARTS 451 - Advanced Computer Art 3 credits

**Choose one from the following:**

ARTS 210 - Introduction to Ceramics 3 credits  
ARTS 245 - Introduction to Sculpture 3 credits  
ARTS 255 - Sculpture-Wood/Studio Furniture I 3 credits

**3-Dimensional Arts Concentration (34 credits):**

**Required:**

ARTP 496- Final Visual Exhibition 1-3 credits; 1 credit required  
ARTS 210 - Introduction to Ceramics 3 credits  
ARTS 215 - Fundamentals of Drawing II 3 credits  
ARTS 245 - Introduction to Sculpture 3 credits  
ARTS 400 (A, F, or G) – Senior Studio 1-6 credits; 3 credits required

**Choose 18 credits from the following:**

ARTS 255 - Sculpture-Wood/Studio Furniture I 3 credits  
ARTS 311 - Intermediate Ceramics 3 credits  
ARTS 346 - Intermediate Sculpture 3 credits  
ARTS 356 - Sculpture-Wood/Studio Furniture II 3 credits  
ARTS 357 - Sculpture-Wood/Studio Furniture III 3 credits  
ARTS 410 - Advanced Ceramics 3 credits

ARTS 413 - Kiln Design 3 credits  
ARTS 414 - Glaze Calculation 3 credits  
ARTS 445 - Advanced Sculpture 3 credits  
ARTS 450 - Alternative Art Forms 3 credits  
ARTS 455 - Sculpture—Wood/Studio Furniture IV 3 credits  
ARTS 456 - Sculpture—Wood/Studio Furniture V 3 credits  
ARTS 457 - Special Problems in Sculpture—Wood/Studio Furniture 1-6 credits

**Choose one from the following:**

ARTS 230 - Introduction to Painting 3 credits  
ARTS 235 - Introduction to Photography 3 credits  
ARTS 240 - Introduction to Beginning Printmaking 3 credits  
ARTS 251 - Introduction to Computer Art 3 credits

**Graphic Design Concentration (33 credits):**

**Required:**

ARTD 220 - Introduction to Graphic Design 3 credits  
ARTD 321 - Principles of Graphic Design 3 credits  
ARTD 322 - Layout Design 3 credits  
ARTD 323 - Illustration for Layout 3 credits  
ARTD 420 - Web Page Design 3 credits  
ARTD 421 - Advanced Layout Design 3 credits  
ARTD 423 - Advanced Applications in Graphic Design 3 credits  
ARTD 490 - Graphic Design Portfolio 3 credits  
ARTS 215 - Fundamentals of Drawing II 3 credits  
ARTS 235 - Introduction to Photography 3 credits  
ARTS 316 - Intermediate Drawing 3 credits OR  
ARTS 251 - Introduction to Computer Art 3 credits

**Art History Concentration (33 credits)**

**Required Art History courses (15 credits):**

At least one course from each of the three historical periods offered: ancient and medieval, Renaissance and Baroque; nineteenth and twentieth century.

**Cognate courses (18 credits):**

**Choose 2 of the following:**

3 credits literary history  
3 credits music history  
3 credits of theater history

**Select 9 credits from the 200-level language courses.**

**Choose one from the following:**

PHIL 101 - Introduction to Philosophy 3 credits

PHIL 404 - Aesthetic Theory 3 credits

**Intermedia Concentration (34 credits):**

This concentration allows students to combine directed study in two to three art mediums. A contract of study must be approved by the advisor. Coursework must include a four semester sequence in one medium, including the appropriate ARTS 400 course. Additional coursework from one to two other media will complete the program.

**Required course:**

ARTP 496- Final Visual Exhibition 1-3 credits; only 1 credit required

*Effective term: Fall 2013*

**COLLEGE OF ARTS AND SCIENCES: Interdisciplinary Programs**

**International Studies Minor (25 credits)**

**CIP Code: 240101 Major Code: 2527**

**Brief Summary:**

The Advisory Board for International Studies has determined that a change in the foreign language requirement for this minor would better serve ISU students. The current requirement is to complete a second year of study in a foreign language. For students who have no previous credit in a foreign language, this effectively means they must undertake a four-semester sequence in a particular foreign language.

Our proposed change is to require two courses (six credit hours) of foreign language study beyond the Foundational Studies requirement of six credit hours in a foreign language.

Effectively this softens the language requirement by allowing students to study different languages in order to meet the minor requirements. Students who pursue competence in a single language with four semesters of study (the previous requirement) will continue to fulfill the new requirement. But students who prefer to study more than one language in any combination of four courses would also meet the new requirement.

*Rationale*

There are three reasons behind this change. The Advisory Board determined that, while competence in a single language certainly has value in international studies, language competence is not inherently a part of international studies. For example, programs with focus on the United Kingdom, Ireland, Australia, Canada and New Zealand are just as validly

international studies as those that focus on other countries – yet English is the predominant language of these societies. Second, students may have interest in foreign countries with languages that are not taught through two full years at ISU. Gaining a degree of ability in Arabic, Chinese or Russian, for example, may be more valuable to a particular student than greater competence in, say, German or Spanish. Third, changing the language requirement in this way expands the set of students who might choose this minor while not reducing its availability to those who will focus on one of the foreign languages that the Department of Languages, Literatures and Linguistics offers through a second year of instruction. This will potentially increase the number of students who choose to pursue the minor in International Studies.

### **Student Learning:**

Results of assessment and program review were not used in developing this change.

The change will widen the scope of foreign languages students can use to meet the minor requirements and potentially increase the number of students choosing this minor.

### **Approved Catalog Copy:**

#### **International Studies Minor (25 credits)**

**CIP Code: 240101 Major Code: 2527**

The minor consists of 25 credits, including 15 credits of core courses, of which 6 credits are for courses in any foreign language beyond the 6 credits required for Foundational Studies. Students must also take 9 credits of approved 300/400 level courses with a regional or thematic focus. Courses for this focus requirement are determined in consultation with the academic advisor for International Studies.

In addition, students must participate in an approved study abroad program or complete a substantial research paper in international studies. During their senior year, students complete a culminating self-reflective project in International Studies 490. Students design their programs of study with an International Studies Program advisor.

#### **Foreign Language and Culture (6 credits)**

Six hours of foreign language study beyond the requirement for Foundational Studies.  
(any foreign language at any level)

#### **World History (3 credits)**

- HIST 102 - Studies in World Civilization since 1500 3 credits
- International Social Processes (6 credits)

#### **Choose one course from two of the following three discipline areas:**

A:

- PSCI 271 - Introduction to International Relations 3 credits
- PSCI 280 - Introduction to Comparative Politics 3 credits

B:

- ECON 100 - Basic Economics 3 credits

C:

- ENVI 130 - World Cultures and Environments 3 credits

**Focus Requirement (9 credits)**

Three courses at 300-400 level with a regional or thematic focus, with approval of international studies advisor, to include study abroad or a research paper completed in an approved 400-level class.

**Culminating Self-Reflective Project (1 credit)**

- IS 490 - Culminating Project in International Studies 1 credits

*Effective term: Fall 2013*

**COLLEGE OF ARTS AND SCIENCES: Social Science Education**

**Social Studies Education Major (54-69 credits)**

**CIP Code: 131316 Major Code: 3822**

**Brief Summary:**

The following revisions are being made to the Social Studies Education Major:

1. The number of required teaching areas will be dropped from three to two.
2. The credits for SS 306 are being lowered from three to one.

**Student Learning:**

These revisions stem from the state mandate to limit degree programs to 120 hours. The changes will not impact NCATE/National Council for Social Studies accreditation, the revisions do not affect the type or number of courses required within a content area specialization, nor does the NCSS require any minimum number of hours in methods courses. This change should have the desired effect of decreasing time to graduation, while maintaining program quality. Most SSE programs in the state are making or have made similar modifications, so that ISU grads will not be at a market disadvantage.

**Approved Catalog Copy:**

**Social Studies Education Major (46-52 credits)**

**CIP Code: 131316 Major Code: 3822**

Students should be thoroughly familiar with the requirements of the teaching curriculum and admission to the Teacher Education Program. Refer to the Bayh College of Education and the



Department of Curriculum, Instruction, and Media Technology sections of this Catalog.

Students may choose to concentrate in any two of the following teaching areas: economics, geography, government, history, psychology, and sociology. Required courses for each teaching area are listed below. To ensure broad competence in the social sciences, students are also required to complete one course in three of the four areas other than those selected as teaching areas, for a total of 9 credits (for accreditation purposes students should take either the required Psychology course OR a required Sociology course, but not both). These courses are also listed below. There is one exception to this pattern: students who do not choose history as one of their teaching areas must complete two history courses and one course in each other teaching area not chosen, for a total of 12 credits.

Some courses that count for one teaching area may also count for another teaching area because they contain substantial content from both disciplines. For example, ENVI 213 could be taken as an elective in the economics teaching area even though it is a geography course. Such courses are called shared courses, and students may choose to take one shared course per teaching area for a maximum of 9 credits. A list of shared courses is maintained on the Social Science Education Web site.

A grade point average of 2.5 or higher must be earned in each teaching area and in the major as a whole. No grade lower than C will be counted towards completion of the areas in the social studies education major.

### **Courses Required for Teaching Areas:**

Students should choose two teaching areas and consult the Social Science Education Web site for a list of elective options.

### **Economics (15 credits minimum):**

ECON 200 - Principles of Macroeconomics 3 credits  
ECON 201 - Principles of Microeconomics 3 credits  
ECON 362 - Economic History of the United States 3 credits  
Elective Option 3 credits

### **Directed Electives (3 credits):**

*Choose one of the following:*

ECON 321 - Money and Banking 3 credits  
ECON 331 - Public Finance 3 credits  
ECON 341 - International Economics 3 credits  
ECON 344 - The Chinese Economy 3 credits  
ECON 351 - Survey of Labor Economics and Labor Institutions 3 credits

### **Geography (15 credits minimum):**

ENVI 105 - Introduction to Human Geography 3 credits  
ENVI 110 - Introduction to Environmental Sciences 3 credits  
ENVI 115 - Earth from Space: Contemporary Remote Sensing 3 credits  
ENVI 213 - Introduction to Economic Geography 3 credits  
Elective Option 3 credits

**Government (15 credits minimum):**

PSCI 201 - Introduction to American Politics 3 credits  
PSCI 271 - Introduction to International Relations 3 credits  
or

PSCI 280 - Introduction to Comparative Politics 3 credits  
PSCI 305 - State and Local Government 3 credits  
Elective Option 3 credits

400-level Directed Elective 3 credits

**History (24 credits minimum):**

HIST 101 - Studies in World Civilization to 1500 3 credits  
HIST 102 - Studies in World Civilization since 1500 3 credits  
HIST 201 - The United States to 1877 3 credits  
HIST 202 - The United States since 1865 3 credits  
Elective Option 3 credits

400-level Directed Elective in United States history 3 credits

400-level Directed Elective in European history 3 credits

400-level Directed Elective in Wider World history 3 credits

**Psychology (15 credits minimum):**

PSY 101 - General Psychology: Understanding Human Behavior 3 credits  
PSY 201 - Introduction to Research Methods in Psychology 3 credits  
PSY 344 - Cognitive Psychology 3 credits  
PSY 362 - Psychology of Personality 3 credits  
Elective Option 3 credits

**Sociology (15 credits minimum):**

SOC 101 - Introduction to Sociology - 3 credits  
SOC 110 - United States and Global Diversity: Sociological Perspectives - 3 credits  
SOC 220 - Contemporary Social Problems - 3 credits  
6 credits of Sociology electives, 3 credits of which must be at the 3/400 level

## **Courses Required for Disciplines not Chosen as Teaching Areas:**

### **Economics:**

Select one of the following:

ECON 100 - Basic Economics 3 credits

ECON 200 - Principles of Macroeconomics 3 credits

### **Geography:**

*Select one of the following:*

ENVI 105 - Introduction to Human Geography 3 credits

ENVI 130 - World Cultures and Environments 3 credits

ENVI 213 - Introduction to Economic Geography 3 credits

### **Government:**

PSCI 201 - Introduction to American Politics 3 credits

### **History:**

HIST 102 - Studies in World Civilization since 1500 3 credits

HIST 202 - The United States since 1865 3 credits

### **Psychology:**

PSY 101 - General Psychology: Understanding Human Behavior 3 credits

### **Sociology:**

Select one of the following:

SOC 101 – Introduction to Sociology 3 credits

SOC 110 - United States and Global Diversity: Sociological Perspectives 3 credits

SOC 220 - Contemporary Social Problems 3 credits

### **Required Professional Education:**

Four hours are required in the Senior High-Junior High/Middle School Professional Education sequence described in the Department of Curriculum, Instruction, and Media Technology.

SS 305 - Teaching Social Studies in Secondary Schools 3 credits

SS 306 - Interdisciplinary Perspectives in Teaching Secondary Social Studies 1 credit

### **Professional Education Courses Taught in the Bayh College of Education (30 credits):**

Students pursuing the social studies major must also fulfill the requirements of the teacher education program listed below.

CIMT 200 - Teaching I 2 credits  
CIMT 301 - Teaching IIa 2 credits  
CIMT 302 - Teaching IIb 2 credits  
CIMT 400 - Teaching III 3 credits  
CIMT 400L - Teaching III Practicum 1 credits  
CIMT 401 - Student Teaching 11 credits  
EPSY 202 – Psychology of Childhood and Adolescence 3 credits  
EPSY 341 - Education in a Multicultural Society 3 credits  
SPED 226 - The Exceptional Learner in the Regular Classroom 3 credits

*Effective term: Fall 2013*

## **COLLEGE OF TECHNOLOGY: Applied Engineering and Technology Management**

### **Civil Engineering Technology Major (83 credits)**

**CIP Code: 150201 Major Code: E643**

#### **Brief Summary:**

The proposed Civil Engineering Technology program revision is to comply with the 120 credit hours mandate. Major required courses have been reduced from 83 credits to 77 credits (this includes 7 credits of Foundational Studies) as follows:

- 1) TMGT 195 (3) or MET 299 (3) has been removed as the students will gain necessary computer and software knowledge related to the discipline in the courses they will take.
- 2) CNST 320 (3) is banked. This has been replaced with CNST 111L (1).
- 3) CNST 420 has been revised from 3 credits to 2 credits.

#### **Approved Catalog Copy:**

### **Civil Engineering Technology Major (77 credits)**

**CIP Code: 150201 Major Code: E643**

Program Educational Objective: The program will prepare graduates with the technical and managerial skills necessary to enter careers in the planning, design, construction, operation or maintenance of the built environment and global infrastructure. The graduates will be able to analyze and design systems, specify project methods and materials, perform cost estimates and analyses, and manage technical activities in support of civil projects.

#### **Required Courses (77 credits\*):**

CNST 111 Construction Materials, Methods, and Equipment (3)  
CNST 111L Soils Laboratory (1)

CNST 201 Construction Contract Documents and Project Delivery (3)  
CNST 420 Construction Surveying (2)  
CVET 401 CAD-Based Applications in Civil Engineering Technology and Surveying (3)  
CVET 410 Structural Analysis and Reinforced Concrete Design (3)  
CVET 420 Highway Design (3)  
CVET 411 Waste Water System Design (3)  
ENVI 170 Earth Science (3)  
ENVI 170L Earth Science Laboratory (1)  
ENVI 401 Geographic Information Systems: Applications (3)  
ENVI 454 Introduction to Hydrology (3)  
MET 103 Introduction to Technical Graphics with CAD (3)  
MET 130 Introduction to Engineering and Technology (2)  
MET 302 Applied Statics (3)  
MET 304 Engineering Analysis (3)  
MET 329 Fluid Power Technology (3)  
MET 405 Economic Analysis for Engineering and Technology (3)  
MET 406 Strength of Materials (3)  
MET 409 Senior Project in Industrial Technology (3)  
MET 430 Senior Seminars (1)  
MATH 115 College Algebra (3) or MET 215 Graphic Analysis (3)  
MATH 123 Analytic Geometry and Trigonometry (3)  
MATH 301 Fundamental and Applications of Calculus (3)  
PHYS 105 General Physics I (3)  
PHYS 105 General Physics I Laboratory (1)

**Electives from the following: (9)**

INS 340 Introduction to Risk and Insurance (3)  
MET 337 Thermo Systems (3)  
MET 351 Cooperative Industrial Practice (3) or equivalent  
TMGT 361 Quality Systems and Tools (3)  
TMGT 421 Research and Development of Technology (3)  
TMGT429 Workplace Law for the Technical Manager (3)  
Other course(s) approved by the advisor.

\*Include 7 credits of Foundational Studies (ENVI 170 & 170L; MATH 115 or MET 215).

*Effective term: Fall 2013*

**COLLEGE OF TECHNOLOGY: Applied Engineering and Technology Management**

**Mechanical Engineering Technology Major (83 credits)**  
**CIP Code: 150899 Major Code: E632**

**Brief Summary:**

The proposed Mechanical Engineering Technology program revision is to comply with the 120 credit hours mandate. Major required courses have been reduced from 83 credits to 77 credits (this includes 7 credits of Foundational Studies) as follows:

- 1) CS 151 (3) has been removed as the students will gain necessary computer and software knowledge related to the discipline in the courses they will take.
- 2) Electives have been reduced from 9 credits to 6 credits.

### **Approved Catalog Copy:**

#### **Mechanical Engineering Technology Major (77 credits) CIP Code: 150899 Major Code: E632**

Program Educational Objective: The BS in Mechanical Engineering Technology (MET) program prepares graduates with knowledge, problem solving ability, and hands-on skills to enter careers in the design, installation, manufacturing, testing, evaluation, technical sales, maintenance, or management of mechanical and related systems and processes. These graduates can:

1. Apply the latest technology and engineering tools to solve technical problems in the practice of mechanical engineering technology and related interdisciplinary fields.
2. Remain technically current and adapt to rapidly changing technologies through self improvement with continuous learning or post-graduate education.
3. Demonstrate independent thinking, self-management, and functioning effectively in team-oriented and open-ended activities in an industrial environment.
4. Communicate effectively in oral, written, and graphical forms.
5. Perform ethically and professionally in business, industry, and society.
6. Develop leadership skills and responsibility in their chosen career field.
7. Understand global issues and the impact of technology and engineering solutions on the society and environment.

#### **Required Courses (77 credit hours\*):**

MET 103 (3) Technical Graphics  
MET 130 (2) Intro to Engr. & Tech.  
MET 203 (3) Intro to Solid Modeling  
MET 302 (3) Applied Statics  
MET 304 (3) Engr. Analysis (Dynamics)  
MET 306 (3) Applied Mechanisms  
MET 329 (3) Fluid Power Technology  
MET 403 (3) Advanced CAD Concepts  
MET 404 (3) Engr. Design & Mgt.  
MET 405 (3) Econ. Analy. For Engr. & Tech  
MET 406 (3) Strength of Materials  
MET 408 (3) Elements of Machine Design  
MET 409 (3) Senior Project  
MET 413 (3) Appl & Gaging of GD&T  
MET 430 (1) Senior Seminar

ECT 160 (3) Fund. of Electronics  
ECT 281 (3) Intro to Automation  
MFG 370 (3) Fund. of Mach. Tool Proc.  
MFG 371 (3) Mfg. Processes & Materials

**Electives: 6 hours from the following:**

**Technical: 3 hrs from the following:**

MET 299 (3) CAD Fundamental  
MET 337 (3) Thermo Systems  
MET 351 (3) Coop. Industrial Practice  
MET 407 (3) Tools & Die Design  
Other courses approved by the MET advisor

**Management: 3 hours from the following:**

TMGT 471 (3) Production Plan & Control I  
TMGT 361 (3) Quality Systems & Tools  
TMGT 478 (3) Industrial Organ. & Functions  
MGT 301 (3) Survey of Management  
TMGT 492 (3) Industrial Supervision

**Science and Math Required Courses:**

MATH 115 (3) OR MET 215 (3) Graphic Analysis  
MATH 123 (3)  
MATH 301 (3)  
PHYS 105 & 105L (4)  
CHEM 100 & 100L (4)

\* Include 7 credits of Foundational Studies (CHEM 100 & 100L; MATH 115 or MET 215).

*Effective term: Fall 2013*

**COLLEGE OF TECHNOLOGY: Aviation Technology**

**Professional Aviation Flight Technology Major (81 credits)**  
**CIP Code: 490102 Major Code: D533**

**Brief Summary:**

Changes are being made to meet the 120-credit requirement.

**Approved Catalog Copy:**

**Professional Aviation Flight Technology Major (81 credits)**  
**CIP Code: 490102 Major Code: D533**

## **Required Courses:**

### **Aviation Technology Courses (61 credits):**

#### **Aviation Department Core Courses (27 credits):**

- AVT 130 - Introduction to Aviation Technology 2 credits
- AVT 141 - Private Pilot Theory 6 credits
- AVT 223 - Aviation Weather Services 3 credits
- AVT 307 - Airport Operations 3 credits
- AVT 325 - Crew Resource Management 3 credits
- AVT 403 - Air Carrier Operations 3 credits
- AVT 405 - Aviation Law 3 credits
- AVT 425 - Aviation Safety Management Systems 3 credits
- AVT 430 - Aviation Career Planning 1 credits

#### **Aviation Flight Seminar Core Courses (6 credits):**

- AVT 142 - Private Pilot Flight I 1 credits
- AVT 144 - Private Pilot Flight II 1 credits
- AVT 242 - Instrument Flight I 1 credits
- AVT 244 - Instrument Flight II 1 credits
- AVT 342 - Commercial Flight I 1 credits
- AVT 344 - Commercial Flight II 1 credits

#### **Aviation Flight Theory Core Courses (28 credits):**

- AVT 211 - Reciprocating Aircraft Systems 3 credits
- AVT 243 - Instrument/Commercial Theory I 3 credits
- AVT 311 - Turbine Systems and Flight Dynamics 3 credits
- AVT 313 - Beechcraft King Air 200/B200 Systems 3 credits
- AVT 315 - Beechcraft King Air 200/B200 Flight 3 credits
- AVT 317 - Technically Advanced Aircraft 3 credits
- AVT 319 - Technically Advanced Aircraft Lab 1 credit
- AVT 341 - Commercial Pilot Theory 3 credits
- AVT 413 - Regional Jet Aircraft Systems 3 credits
- AVT 441 - Flight Instructor Theory 3 credits

## **Document Requirement:**

- A copy of the student's valid and current Passport must be on file in the Aviation Department prior to the awarding of a degree.
- A copy of the student's Private and Commercial certificates and the student's Instrument and Multi-engine ratings must be on file in the Aviation Department prior to the awarding of a degree.



**Note:**

- All professional aviation flight technology students are encouraged to complete their CFI/CFII.
- All professional aviation flight technology students must pass each aviation course, used in their program, with a C grade (2.0 points) or higher.

*Effective term: Fall 2013*

**COLLEGE OF TECHNOLOGY: Electronics and Computer Engineering Technology****Automation and Control Engineering Technology Major (80 credits)**

**CIP Code: 150405 Major Code: 08 E933 BS**

**Brief Summary:**

In order to meet the 120 credit program requirement The ECET faculty have elected to replace the current ECT 170 (3 credit) course with ECT 130 (2 credit).

**Student Learning:**

Student Learning will not be adversely affected by this change.

**Approved Catalog Copy:****Automation and Control Engineering Technology Major (79 credits)**

**CIP Code: 150405 Major Code: 08 E933 BS**

**Required Courses:****Electronics and Computer Technology (26 credits):**

- ECT 130 - Introduction to Electronics and Computer Technology 2 credits
- ECT 165 - D.C. Circuits and Design 3 credits
- ECT 167 - A.C. Circuits and Design 3 credits
- ECT 231 - Digital Computer Logic 3 credits
- ECT 232 - Digital Computer Circuits 3 credits
- ECT 281 - Introduction to Robotics and Automation 3 credits
- ECT 381 - Advanced Robotics and Automation 3 credits
- ECT 444 - Programmable Logic Controllers and Control Systems 3 credits
- ECT 480 - Applications of Robotic and Automation Systems 3 credits

**Manufacturing Technology (12 credits):**

- MFG 225 - Introduction to Materials, Processes, and Testing 3 credits
- MFG 370 - Fundamentals of Manufacturing Processes 3 credits

- MFG 371 - Manufacturing Processes and Materials 3 credits
- MFG 376 - Computer Numerical Control Systems 3 credits

**Mathematics/Computer Science and Physical Science requirements (14 credits):**

- Courses in chemistry, geology, biology, or physics 8 credits
- CS 256 - Principles of Structured Design 3 credits
- or higher level structured language.
- MATH 301 - Fundamentals and Applications of Calculus 3 credits

**Mechanical Engineering Technology (15 credits):**

- MET 103 - Introduction to Technical Graphics with CAD 3 credits
- MET 203 - Introduction to Solid Modeling 3 credits
- MET 299 - CAD Fundamentals 3 credits
- MET 329 - Fluid Power Technology 3 credits
- MET 403 - Advanced Computer Aided Design (CAD) Concepts 3 credits

**Technology Management (9 credits):**

- ECT 437 - Industrial Computer Systems Management 3 credits
- TMGT 478 - Industrial Organization and Functions 3 credits
- TMGT 492 - Industrial Supervision 3 credits

**Directed Foundational Studies (3 credits):**

- MATH 115 - College Algebra 3 credits

*Effective term: Fall 2013*

**PROGRAM ELIMINATIONS**

**COLLEGE OF ARTS AND SCIENCES: Interdisciplinary Programs**

**International Business Concentration in College of Arts and Science and College of Business**

**Brief Summary:**

Interdisciplinary Studies would like to eliminate the International Business Concentration in College of Arts and Science and College of Business.

**Student Learning:**

The concentration was created in 1993, by way of memo. It does not appear to ever have been coded in Banner, or given a CIP or major code. There is no way for a student to officially declare

this concentration. Concentrations also must be attached to a major, and this one is not.

*Effective term: Fall 2013*

## **GRADUATE APPROVALS**

### **NEW COURSES**

#### **COLLEGE OF ARTS AND SCIENCES: Psychology**

##### **PSY 677 - Consultation and Collaboration**

3 credits

This course provides an overview of the theory and practice of mental health, behavioral, and organizational consultation and collaboration

*A-F Grading*

*Effective term: Spring 2013*

### **COURSE REVISIONS**

#### **COLLEGE OF ARTS AND SCIENCES: Psychology**

##### **PSY 521 - History and Systems of Psychology**

2 credits

A survey of the historical development of psychology, emphasizing the major contemporary systems of psychology.

**Prerequisites:** Consent of instructor.

*Change credits to:*

##### **PSY 521 - History and Systems of Psychology**

3 credits

A survey of the historical development of psychology, emphasizing the major contemporary systems of psychology.

**Prerequisites:** Consent of instructor.

*A-F Grading*

*Effective term: Fall 2013*

#### **COLLEGE OF TECHNOLOGY: Applied Engineering and Technology Management**

##### **MET 505 - Economic Analysis for Engineering and Technology**

3 credits

This course is designed to provide students with the principles of investment economic analysis, decision-making among alternatives, and replacement analysis. Inflation, depreciation, cost concepts, bond, and income tax considerations are included.

Prerequisites: MATH 115.

*Change prerequisites to:*

##### **MET 505 - Economic Analysis for Engineering and Technology**

3 credits

This course is designed to provide students with the principles of investment economic analysis, decision-making among alternatives, and replacement analysis. Inflation, depreciation, cost concepts, bond, and income tax considerations are included.

Prerequisites: Graduate standing.

*A-F Grading*

*Effective term: Spring 2014*

## **CORRECTIONS**

### **UNDERGRADUATE APPROVALS**

**The Interior Design Major was inadvertently published as approved in the 2/11/13 Academic Notes. *It still requires further approval. It will be posted when it is fully approved.***

**COLLEGE OF TECHNOLOGY: Built Environment**

**Interior Design Major (75 credits)**

**CIP Code: 040501 Major Code: E834**