AGENDA
Faculty Senate Academic Affairs
October 16, 2007, 3:30 p.m.
Alumni Center, Truitt Conference Room

1. Call to Order

2. Approve September 18, 2007 minutes

3. Announcements

4. Course and Curriculum Changes
   A. Undergraduate Education
      1. Approve the following course and curriculum changes as approved by the College of Arts & Sciences on October 4, 2007:

COURSE CHANGES
Dean of Arts & Sciences
Change:
DAS 178 Listening Skills ~~Oral Communication for Non-native Speakers of English~~
DAS 156 ~~182~~ Introduction to American Academic Research Writing for International Students
DAS 157 ~~183~~ Introduction to American Academic Presentations for International Students
DAS 158 ~~186~~ Orientation to American Culture and Education

Add:
DAS 030 English Language Program Orientation

Department of History
Add:
HIST 501 Japan's Samurai Age

School of Journalism and Mass Communications
Add:
MC 576 Mass Communications and Political Campaigns

Department of Political Science
Change:
POLSC 576 ~~508 The Mass Media~~ Mass Communications and Political Campaigns in alternate years (change in title and description)

Department of Psychology
Add:
PSYCH 565 Occupational Healthy Psychology

Department of Sociology, Anthropology and Social Work
Change:
SOCIO 507 ~~Comparative Political Sociology~~ International Development and Social Change SOCWK 330 Introduction to Social Work Research (Change to prerequisites)
SOCWK 510 Social Welfare ~~as a Social Institution~~
SOCWK 315 ~~515~~ Human Behavior in the Social Environment I
SOCWK 525 Human Behavior and the Social Environment II (Prerequisite change)
SOCWK 550 Field Practicum Preparation (Course description changes)
SOCWK 560 Social Work Practice I (Course description and prerequisite changes)
SOCWK 562 Field Experience (Prerequisite changes)

SOCWK 565 Social Policy ~~Program and Policy Formulation and Analysis~~
SOCWK 570 Social Work with Groups (Course description change)

Add:
ANTH 360 Topics for Educators
SOCWK 200 Basic Skills for Working with People
SOCWK 312 Fundamentals of Communication for the Agriculture and Food Science Community SOCWK 320 Dynamics of Working with Older Adults

Drop:
SOCWK 010 Introduction to the Social Work Major
SOCWK 543 Women's Mental Health Issues
SOCWK 566 Social Work in Aging Services
SOCWK 580 Women's Perspective on Peace and War

CURRICULUM CHANGES
(Attachment 1)

B. Graduate Education –

1. Approve the following course and curriculum changes approved by the Graduate Council on October 2, 2007:

   New Certificate Program
   Interdisciplinary Graduate Certificate in Stem Cell Biotechnology **(Attachment 2)**

2. Bring back to the floor for approval the following course changes approved by the Graduate Council on September 4, 2007:

   Changes (Human Ecology May 2, 2007 white sheets)
   HN 701 Sensory Analysis

   New
   HN 726 Nutrition and Wellness
   HN 838 Advanced Clinical Dietetics
   HN 840 Advanced Nutrition: Nutrigenomics, Nutrigenetics, and Advanced Lipid Metabolism
   HN 859 Nutrition: A Focus on Life Stages
   HN 862 Maternal and Child Nutrition
   HN 875 Pediatric Clinical Nutrition

C. General Education - none

D. Graduation additions
1. Approve the August 2007 Graduation list as submitted by the Registrar's Office.

2. Approve the following graduation list additions:

   August 2007
   Eddie Vasquez, Bachelor of Science – College of Arts & Sciences
   Amelia Acevedo Nail – Bachelor of Arts – College of Arts & Sciences

   May 2007
   Lacie Marie Leatherman, Bachelor of Science in Business Administration – College of Business Administration

December 2006
Keith Anderson Oxler, Bachelor of Arts – College of Arts & Sciences
Quadriyyah Khadijah Musawwir, Bachelor of Science in Family Studies and Human Services – College of Human Ecology

5. Committee Reports
   A. University Library Committee – Mohan Ramaswamy
   B. Committee on Academic Policy and Procedures (CAPP) – Doris Carroll
   C. Student Senate – Tim Weninger
   D. Course and Curriculum ad hoc committee - Candace Becker
   E. General Education Task Force – Melody LeHew

6. Old Business
   A. Final Exam Policy (CAPP)
   B. Plagiarism Definition (CAPP)

7. New Business
   A. Policy on failing grades in credit/no credit courses - Carroll

8. For the good of the University

9. Adjourn

Attachment 1

Arts & Sciences Undergraduate Curriculum Changes – As approved by the College of Arts & Sciences on October 4, 2007

Department of Biology

(pg 105 of undergraduate catalog)

CHANGE:

Microbiology degree

Students in microbiology may obtain either the BA or BS degree. The requirements for a microbiology major, in addition to those requirements of the College of Arts and Sciences, include blocks A, B, and C as listed below.

Block A: Courses offered by other departments

MATH 220	Analytical Geometry and Calculus I	4
CHM 210	Chemistry I	4
CHM 230	Chemistry II	4
CHM 350	General Organic Chemistry	3
CHM 351	General Organic Chemistry Lab	2
BIOCH 521	General Biochemistry	3
PHYS 113	General Physics I	4
PHYS 114	General Physics II	4

Prerequisites for MATH 220 are MATH 100 and 150 or four semesters of high school algebra and one semester of trigonometry, plus appropriate math placement exam scores. Upon consultation with a Division of Biology advisor, a student may substitute: Biochemistry I and II for General Biochemistry; Organic Chemistry I and II for General Organic Chemistry; Organic Chemistry I Lab for General Organic Chemistry Lab; and Engineering Physics I and II for General Physics I and II.

Block B: Division of Biology courses

BIOL 198	Principles of Biology	4
BIOL 450	Modern Genetics	4
BIOL 455	General Microbiology	4
BIOL 670	Immunology	4
BIOL 675	Genetics of Microorganisms	3
~~BIOL 690~~	~~Microbial Physiology and Metabolism2~~	

Block C: Microbiology major electives

Students must take an additional ~~14~~ hours from courses listed below. At least ~~half the 14 hour total must be laboratory courses.~~

BIOL 397, 495 or 697	Topics in Biology	1-3
BIOL 410	Biology of the Cancer Cell	2
BIOL 530	Pathogenic Microbiology (lab)	3
~~BIOL 541~~	~~Cell Biology~~	~~3~~
BIOL 545	Human Parasitology	3
BIOL 546	Human Parasitology Lab	1
BIOL 604	Biology of Fungi (lab)	3
BIOL 625	Animal Parasitology (lab)	4
BIOL 671	Immunology Lab	2
BIOL 676	Molecular Genetics Lab	3
BIOL 687	Microbial Ecology	3
BIOL 698	Problems in Biology (lab)	1-3
BIOL 705	Eukaryotic Genetics	3
BIOL 707	Advanced Cell Biology	3
~~BIOL 720~~	~~Anaerobic Bacteriology~~	~~2~~
BIOL 730	General Virology	3
BIOL 731	Virology Lab	2
~~BIOL 755~~	~~Specialized Cell Functions~~	~~3~~
ASI 607	Food Microbiology (lab)	4
AGRON 645	Soil Microbiology (lab)	4

By consultation with a Division of Biology advisor a student may choose elective courses from Block C that allow a more specific focus on interest and experience. Areas of specialization would include prokaryotic microbiology, eukaryotic microbiology, biotechnology/genetic engineering, and infectious diseases. The microbiology curriculum coupled with appropriate electives provides an excellent education base for students moving directly into the job market, for students headed toward medical, dental, medical technology, and veterinary programs, and for students going into graduate programs in the biological sciences.

TO:

Microbiology degree

Students in microbiology may obtain either the BA or BS degree. The requirements for a microbiology major, in addition to those requirements of the College of Arts and Sciences, include blocks A, B, and C as listed below.

Block A: Courses offered by other departments

MATH 220	Analytical Geometry and Calculus I	4
CHM 210	Chemistry I	4
CHM 230	Chemistry II	4
CHM 350	General Organic Chemistry	3
CHM 351	General Organic Chemistry Lab	2
BIOCH 521	General Biochemistry	3
PHYS 113	General Physics I	4
PHYS 114	General Physics II	4

Prerequisites for MATH 220 are MATH 100 and 150 or four semesters of high school algebra and one semester of trigonometry, plus appropriate math placement exam scores. Upon consultation with a Division of Biology advisor, a student may substitute: Biochemistry I and II for General Biochemistry; Organic Chemistry I and II for General Organic Chemistry; Organic Chemistry I Lab for General Organic Chemistry Lab; and Engineering Physics I and II for General Physics I and II.

Block B: Division of Biology courses

BIOL 198	Principles of Biology	4
BIOL 450	Modern Genetics	4
BIOL 455	General Microbiology	4
BIOL 541	Cell Biology	3
BIOL 670	Immunology	4
BIOL 675	Genetics of Microorganisms	3

Block C: Microbiology major electives

Students must take an additional <u>13</u> hours from courses listed below. At least <u>7 of the 13 hours must be laboratory courses</u>.

BIOL 397, 495 or 697	Topics in Biology	1-3
BIOL 410	Biology of the Cancer Cell	2
BIOL 530	Pathogenic Microbiology (lab)	3
BIOL 545	Human Parasitology	3
BIOL 546	Human Parasitology Lab	1
BIOL 604	Biology of Fungi (lab)	3
BIOL 625	Animal Parasitology (lab)	4
BIOL 671	Immunology Lab	2
BIOL 676	Molecular Genetics Lab	3
BIOL 687	Microbial Ecology	3
<u>BIOL 690</u>	<u>Microbial Physiology and Metabolism2</u>	
BIOL 698	Problems in Biology (lab)	1-3
BIOL 705	Eukaryotic Genetics	3
BIOL 707	Advanced Cell Biology	3
BIOL 730	General Virology	3
BIOL 731	Virology Lab	2
ASI 607	Food Microbiology (lab)	4
AGRON 645	Soil Microbiology (lab)	4

By consultation with a Division of Biology advisor a student may choose elective courses from Block C that allow a more specific focus on interest and experience. Areas of specialization would include prokaryotic microbiology, eukaryotic microbiology, biotechnology/genetic engineering, and infectious diseases. The microbiology curriculum coupled with appropriate electives provides an excellent education base for students moving directly into the job market, for students headed toward medical, dental, medical technology, and veterinary programs, and for students going into graduate programs in the biological sciences.

RATIONALE: The Microbiology undergraduate curriculum has not undergone significant review in over 10 years. The Microbiology curriculum is used by bacteriologists, virologists, and immunologists and the topics covered in BIOL 541 (Cell Biology) are relevant to all groups, compared to the more limited relevance of BIOL 690 (Microbial Physiology and Metabolism).

EFFECTIVE DATE: Spring 2008

Dean of Arts and Sciences
CHANGE:
East Asian Studies minor

FROM:
Elective Courses (12 hours)

ECON 507. The Japanese Economy
GEOG 331: Introduction to Japan
GEOG 332: Introduction to China
GEOG 660. The Geography of East Asia/China
HIST 330. History of East Asian Civilizations
HIST 331: Introduction to Japan
HIST 332: Introduction to China
JAPAN 391: Culture of Japanese Communication
POLSC 511: Contemporary Chinese Politics

The following topics courses may also be used as electives, depending on the specific topic and subject to the approval of the academic director of the East Asian Studies minor:

ARCH 715: Theory of Design
ART 695: Topics in Art History/Art of Japan
EDCEP 786: Topics in Education
ENGL 580: Selected World Literature
HIST 598: Topics in Non-Western History
POLSC 791: Topics in Political Science

Other courses may be used as electives, as authorized at the discretion of the director.

TO:
Elective Courses (12 hours)

ECON 507. The Japanese Economy
GEOG 331: Introduction to Japan
GEOG 332: Introduction to China
GEOG 660. The Geography of East Asia/China
HIST 330. History of East Asian Civilizations
HIST 331: Introduction to Japan
HIST 332: Introduction to China
HIST 504: Intellectual History of Early China
HIST 507: China Since 1644
HIST 508: Introduction to Modern East Asia
HIST 509: Japan Since 1550
JAPAN 391: Culture of Japanese Communication
POLSC 511. Contemporary Chinese Politics

The following topics courses may also be used as electives, depending on the specific topic and subject to the approval of the academic director of the East Asian Studies minor:

ARCH 715: Theory of Design
ART 695: Topics in Art History/Art of Japan
EDCEP 786: Topics in Education
ENGL 580: Selected World Literature
HIST 598: Topics in Non-Western History
POLSC 791: Topics in Political Science

Other courses may be used as electives, as authorized at the discretion of the director.

RATIONALE: The removal of HIST 504, 507, 508 and 509 last spring was not intended by the EAS faculty. These courses are directly relevant to the minor and should be restored to the list of approved electives as soon as possible

EFFECTIVE DATE: Fall 2007

School of Journalism and Mass Communications
(Page 120 of undergraduate catalog)

CHANGE:

Becoming a major

To become a major a student must have a 2.5 GPA based on at least 30 credit hours at the 100-level or higher. MC 110 ~~and ECON 110 with grades of C or higher must be completed within the 30 hours.~~

Transfer students must have completed a total of 30 credit hours before applying for admission to the major. Fifteen of those accumulated hours must be completed at K-State, where the students is expected to have earned a 2.5 minimum GPA on all transfer hours. MC 110 ~~and ECON 110 (or their transferable equivalents) with grades of C or higher~~ must be completed before applying to the major. No more than 3 credit hours out of 30 may be in MC 111, 120, 180, or 210.

TO:

Becoming a major

To become a major a student must have a 2.5 GPA based on at least 30 credit hours at the 100-level or higher and complete MC 110 with a grade of C or higher.

Transfer students must have completed a total of 30 credit hours before applying for admission to the major. Fifteen of those accumulated hours must be completed at K-State, where the students is expected to have earned a 2.5 minimum GPA . A 2.5 GPA is also required on all transfer hours. MC 110 (or its transferable equivalent) with a grade of C or higher must be completed before applying to the major. No more than 3 credit hours out of 30 may be in MC 111, <u>112</u>, 120, 180, or 210.

RATIONALE: The Miller School faculty has voted to no longer require ECON 110. Additionally, since the current catalog was published, MC 112 (Web Communication in Society) has become an official class. The last sentence of the second paragraph is meant to keep majors from “loading up” on low level courses. We have added MC 112 to that group of classes.

EFFECTIVE DATE: Fall 2008

Department of Music
(pg 136 in undergraduate catalog)

CHANGE:	**TO:**
Additional music requirements for instrumental emphasis MUSIC 203, 204, 206, 207, and 9 semester hours chosen according to the major instrument from: ~~MUSIC 232, 233, 234, 235, 427, 428, and 429~~. Enrollments in major organizations must include at least two semesters in a choral organization; ~~upon the recommendation of he advisor, one additional semester of individual or class instruction in voice may be substituted~~. **Additional requirements for vocal/choral emphasis** If voice is the major performance area, MUSIC ~~232, 233, 234, 235, 285 and 287 or 465~~; 4 hours of keyboard. If keyboard is the major performance area, MUSIC 203, 204, 232, 233, 234, 235, 350 (two semesters), 410 and 450. Enrollments in major organizations must include at least two semester ~~in an instrumental organization; upon the recommendation of the advisor, one semester of advanced instrumental techniques classes may be substituted~~. ***Requirements in general education are stated earlier in the College of Arts and Sciences section.***	**Additional music requirements for instrumental emphasis** MUSIC 203, 204, 206, 207, and 9 semester hours chosen according to the major instrument from: <u>MUSIC 234, 235, 236, 237, 238, 239 and 427. If keyboard is the major performance area, 206 and 207 are not required</u>. Enrollments in major organizations must include at least two semesters in a choral organization, <u>one of which must be MUSIC 112 – University Choir (2 credit hours)</u>. <u>Two semesters of MUSIC 113 – University Band (variable credit, 1-3 hours) are required.</u> **Additional requirements for vocal/choral emphasis** If voice is the major performance area, MUSIC <u>234, 235, 236 or 237, and 239 or 239</u>; 4 hours of keyboard. If keyboard is the major performance area, MUSIC 203, 204, 234, 235, <u>236 or 237</u>, and 238 or 239, 350 (two semesters), 410 and 450. Enrollments in major organizations must include at least two semesters <u>in an instrumental organization, one of which must be MUSIC 113 – University Band (2 credit hours)</u>. <u>Two semesters of MUSIC 112 – University Choir (variable credit, 0-1 hours) are required</u>. ***Requirements in general education are stated earlier in the College of Arts and Sciences section.***

RATIONALE: 1) Intensified learning on each instrument will enable a higher minimum performance proficiency and technical understanding. 2) This new format allows time for an expanded instrument repair unit. 3) Provides expanded teaching opportunities for students. 4) There will be less re-teaching associated with a divided course in the former structure.

EFFECTIVE DATE: Spring 2008

Department of Sociology, Anthropology and Social Work
pg 150 of undergraduate catalog

CHANGE:	**TO:**
Social Work Social Work is concerned with the interaction between people and their social environments. Social workers help people deal with other people, cope with the many social and environmental forces that affect and control daily life, and help solve problems that inhibit growth and development. The undergraduate social work program is accredited by the Commission on Accreditation of the Council on Social Work Education to educate entry-level, generalist social work practitioners. The social work major is of particular value to students who intend to pursue a career in social work upon graduation. The bachelor's degree in social work is recognized as a beginning-level professional degree. Students graduating from the social work program are eligible for licensure as bachelor degree social workers in Kansas and numerous other states. No other bachelor's degree is recognized, or necessary, for such eligibility. Students who wish to pursue graduate studies in social work will be eligible for advanced standing in many master of social work programs throughout the United States. The intervention tasks performed by social workers are derived from a common base of knowledge, values, and skills. Thus, social workers are uniquely qualified to provide resources, services, and opportunities to individuals, groups, families, organizations, and communities. Students are required to complete a field practice placement during their senior year to integrate classroom material with practice experience in a professional setting. Students wishing to declare a major in social work may enroll directly in curriculum SOCWK. This is a provisional admission to the social work program. Students must complete ~~SOCWK 010, SOCWK 260, SOCWK 510 and SOCWK 515~~ before formal evaluation and admission to the program can occur. Formal evaluation occurs prior to admission to SOCWK 560: Social Work Practice I, taken during the junior year. At that time, each student completes a personal statement and undergoes a formal review of academic and classroom performance by the program admissions committee. Students must have a 2.3 overall GPA and a 2.75 GPA in the core courses. Students successfully passing this review may enter the first course in the practice sequence, SOCWK 560. Failure to meet and maintain the standards of the program will result in dismissal from the social work major. A student may be allowed to remain in the major on conditional or probationary status, but he or she must meet the standards of the program to complete the major. For complete details on the admission requirements and procedure, see the program admissions policy in the student handbook. Appeals of program faculty decisions may be made through established departmental procedures. A student earning a BA or BS in social work must complete 124 hours (students who entered K-State before the fall of 2003 require only 120 hours for graduation) including SOCWK 010: Orientation to the Social Work Major; SOCWK 260: Introduction to Social Work; 44 additional hours of major courses; and 25 hours of tool and related courses.	**Social Work** Social Work is concerned with the interaction between people and their social environments. Social workers help people deal with other people, cope with the many social and environmental forces that affect and control daily life, and help solve problems that inhibit growth and development. The undergraduate social work program is accredited by the Commission on Accreditation of the Council on Social Work Education to educate entry-level, generalist social work practitioners. The social work major is required for students who intend to pursue a career in social work in Kansas and in many other states. The major is also beneficial to students who plan to work with people. The bachelor's degree in social work is recognized as a beginning-level professional degree. Students graduating from the social work program are eligible for licensure as bachelor degree social workers in Kansas and numerous other states. No other bachelor's degree is recognized, or necessary, for such eligibility. Students who wish to pursue graduate studies in social work will be eligible for advanced standing in many master of social work programs throughout the United States. The intervention tasks performed by social workers are derived from a common base of knowledge, values, and skills. Thus, social workers are uniquely qualified to provide resources, services, and opportunities to individuals, groups, families, organizations, and communities. Students are required to complete a field practice placement during their senior year to integrate classroom material with practice experience in a professional setting. Students wishing to declare a major in social work may enroll directly in curriculum SOCWK. This is a provisional admission to the social work program. Students must complete <u>SOCWK 100, SOCWK 200, SOCWK 315, and SOCWK 510</u> before formal evaluation and admission to the program can occur. Formal evaluation occurs prior to admission to SOCWK 560: Social Work Practice I, taken truing the junior year. At that time each student completes a personal statement and undergoes a formal review of academic and classroom performance by the program admissions committee. Students must have a 2.3 overall GPA and a 2.75 GPA in the core courses. Students successfully passing this review may enter the first course in the practice sequence, SOCWK 560. Failure to meet and maintain the standards of the program will result in dismissal from the social work major. A student may be allowed to remain in the major on conditional or probationary status, but he or she must meet the standards of the program to complete the major. For complete details on the admissions requirements and procedure, see the program admissions policy <u>and procedure</u> in the student handbook. Appeals of program faculty decisions may be made through established departmental procedures. A student earning a BA or BS in social work must complete 124 hours, including SOCWK 100, Introduction to Social Work; 47 additional hours of major courses; and 19 hours of tool and related courses; and STAT 325.

CHANGE:

Human Behavior and the social environment content

SOCIO 211	Introduction to Sociology	3
ANTH 200/204	Introduction to Cultural Anthropology	3
PSYCH 110	General Psychology	3
FSHS 110	Introduction to Human Development	3
~~SOCWK 515~~	~~Human Behavior and the Social Environment~~	~~3~~
SOCWK 525	Human Behavior and the Social Environment II	3
POLSC 110	Introduction to Political Science	3
	or	
POLSC 301	Introduction to Political Thought	3
ECON 110	Principles of Microeconomics	3
	or	
ECON 120	Principles of Macroeconomics	3
BIOL 198	Principles of Biology	4

Social work practice content

SOCWK 560	Social Work Practice I	3
SOCWK 561	Social Work Practice II	3
SOCWK 568	Social Work Practice III	3
SOCWK 570	Social Work with Groups	3

Research content

~~STAT 330~~	~~Elementary Statistics for the Social Sciences~~	~~3~~
SOCWK 330	Introduction to Social Work Research	3
SOCWK 530	Sem. in Applied Social Work Research	3
SOCWK 550	Field Practicum Preparation	3

Social policy content

SOCWK 510	Social Welfare as a Social Institution	3
SOCWK 565	Program and Policy Formulation and Analysis	3

Field practicum

SOCWK 562	Field Experience	3

Professional social work seminar

SOCWK 564	Social Work Professional Seminar	3

Tool and related courses - required (13 hrs.)

SOCIO 211	Introduction to Sociology	3
ANTH 200/204	Introduction to Cultural Anthropology	3
PSYCH 110	General Psychology	3
BIOL 198	Principles of Biology	4

Tool and related courses – elective (6 hrs.)

POLSC 110	Introduction to Political Science	3
	or	
POLSC 301	Introduction to Political Thought	3
ECON 110	Principles of Microeconomics	3
	or	
ECON 120	Principles of Macroeconomics	3

Human Behavior and the social environment content (6 hrs.)

SOCWK 315	Human Behavior and the Social Environment I	3
SOCWK 525	Human Behavior and the Social Environment II	3

Social work practice content (15 hrs.)

SOCWK 200	Basic Skills for Working with People	3
SOCWK 560	Social Work Practice I	3
SOCWK 561	Social Work Practice II	3
SOCWK 568	Social Work Practice III	3
SOCWK 570	Social Work with Groups	3

Research content (9 hrs.)

STAT 325	Elementary Statistics for the Social Sciences	3
SOCWK 330	Introduction to Social Work Research	3
SOCWK 530	Sem. in Applied Social Work Research	3

Social policy content (6 hrs.)

SOCWK 510	Social Welfare	3
SOCWK 565	Social Policy	3

Field practicum (12 hrs.)

SOCWK 550	Field Practicum Preparation	2
SOCWK 562	Field Experience	10

Professional social work seminar (2 hrs.)

SOCWK 564	Social Work Professional Seminar	2

RATIONALE: The college catalog changes identified represent course description changes and changes in the social work major.

EFFECTIVE DATE: Spring 2008

Attachment 2
Graduate Certificate in Stem Cell Biotechnology
As approved by the Graduate Council on October 2, 2007

Introduction

The Midwest Institute for Comparative Stem Cell Biotechnology (the Institute) was created in 2005 based upon emerging research and intellectual property development resulting from the discovery by Kansas State University personnel of a stem cell population in the matrix of the umbilical cord of humans and also domestic and laboratory animals. A website has been created for the institute: http://www.vet.ksu.edu/research/stemcell/index.htm

As is apparent from the website, stem cell research, development of related intellectual property and education in stem cell-related biotechnology are the primary goals. Significant progress has been made in research. All components of the pending patent have been licensed. Fees paid, while confidential under the licensing agreement, are the largest licensing fees ever received by the KSU research foundation by a large margin. The third element of the Institute's aims, education, is the subject of the present proposal.

Learning objectives

The overarching purpose of the proposed certificate program is to add value to other degrees in the biological and life sciences, specifically including animal sciences, veterinary medicine, biology and biochemistry.

Specific learning objectives are enumerated in the assessment plan.

Courses

The core courses in the certificate are:

AP 711. Stem Cells and Comparative Biomedicine. (2) II, S. Characteristics of major categories of stem cells. Applicable or potential clinical uses, including their utilization in tissue engineering or targeted delivery of therapeutics.

AP 850 Stem Cell Techniques. (2) I, S. Cellular and molecular techniques and techniques on tissue culture. Lecture and laboratory hours to be determined.

ASI 802. Gametes, Embryos, and Stem Cells in Farm Animals. (2) I, in odd years. A study of gametes, embryos, pregnancy, and stem cells in farm species including supporting information from laboratory species and humans. Emphasis will be on the regulation of stem cells, gametes, and embryos and on the conceptus-maternal interactions to establish and maintain pregnancy and program conceptus and postnatal development. Two hours lec. a week. Pr.: BIOCH 521.

ASI 902 Topics in Stem Cell Biotechnology. (1) A journal club course in stem cell biotechnology in fall semesters. One semester is required. It can be repeated twice for a total of three credits in the stem cell certificate. Students will evaluate the contribution of scientific papers to the field of stem

cell biology, present scientific data, lead discussions of scientific literature, and become familiar with current concepts in the field of stem cell biology and biotechnology.

Elective courses for emphasis in research or entrepreneurship are:

AP 710 Microanatomy. Origin, development and microscopic structure of the cells and tissues for the animal body. Three hours lecture and six hours lab/week. Pr: First year standing in college of veterinary medicine. Fall semester.

AP 995. Problems in Physiology. (Var.) I, II, S. Special problem-involving techniques utilized in studying the function of various organ systems of the body. Pr.: Consent of instructor.

ASI 600. Applied Animal Biotechnology. (2) II. Emphasis will be placed on the current and future of animals in biotechnology related to food production as well as human medicine applications. Rec. Pr.: Senior standing, BIOCH 521 and ASI 500.

ASI 961. Graduate Problem in Animal Sciences and Industry. (1-3) I, II, S. In-depth study of a topic supervised by a member of the graduate faculty. Pr.: Permission of supervising faculty member.

BIOL 510. Developmental Biology. (3) II. Introduction to the stages and mechanisms of embryonic animal development. Integrated approach that includes classic experimental embryology and the genetic and molecular regulation of invertebrate and vertebrate animal development. Three hours lec. per week. Pr.: BIOL 450.

BIOL 670. Immunology. (4) II. Chemical, genetic, and biological properties of the immune response, acquired immunity, and antibody production. Pr.: Two courses in biology; and a course in biochemistry or equiv.

BIOL 671. Immunology Lab. (2) II. Laboratory exercises in immunology. Pr.: BIOL 670 or conc. enrollment. Three-hour lab a week plus one hour rec.

BIOL 705. Eukaryotic Genetics. (3) I. An integrated exploration of transmission genetics and molecular genetics of eukaryotic organisms. The focus will be on genetic model organisms and their contributions to our understanding of mechanisms of genetic transmission and exchange, mutagenesis, gene expression, and regulation of cell division and development. Modern approaches to genomic analysis will be discussed. Pr.: BIOL 450 and BIOCH 521.

BIOL 707. Advanced Cell Biology. (3) I. Selected current topics in cell biology which reflect recent advances in the field. Major topics include membranes and transport, protein sorting, signal transduction, cell adhesion and motility, cell cycle, apoptosis, and specialized cell functions. Pr.: BIOL 541.

BIOL 886. Confocal, Fluorescence and Light Microscopy. (3) I, in odd years. An introduction to theories, functions and applications of confocal, fluorescence and light microscopy, and fluorescent

molecules. Lab emphasis on students working on independent research projects requiring microscopy. Two hours of lecture and three hours of lab per week.

DMP 705. Principles of Veterinary Immunology. (2) II. Innate and adaptive defense mechanisms in domestic animals. Topics include vaccinology, immunopathology, autoimmunity, immunodeficiency, and immunomodulation. Pr.: BIOCH 521 and BIOL 455

DMP 850. Immunology of Domestic Animals. (3) I. This course is designed to introduce graduate students to immune responses of domestic animals to pathogens and parasites. Pr.: BIOL 541.

DMP 878. Applications of Flow Cytometry. (1-3) I, II, S. Theory and practical experience in the use of flow cytometry in diagnosis and research. Pr.: Graduate standing.

MANGT 845 Technology Entrepreneurship and Strategies. (3)
No pre-requisites other than enrollment in graduate school. This is an evening course taught by Professor Katz and two practitioners in the technology entrepreneurship field.

GRAD 820. Leadership Practicum. (3) I, II. Develops the connections between leadership theory and practice. By conducting a practicum project, students demonstrate the ability to apply concepts and ideas from the study of leadership to a practical leadership problem within an organization. Pr.: GRAD 801 and MANGT 845. The practicum will be developed for stem cell certificate students with the theme "Leading an innovation to market".

PLPTH 610. Biotechnology. (3) I. The use of biotechnology and molecular genetic approaches in plant and animal sciences. Emphasis is on the use of molecular techniques for plant and animal improvement. Three hours lec. per week. Pr.: ASI 500. Same as AGRON 610.

Requirements

Students with graduate standing and a 3.0 GPA in a field in the biological sciences or with a cumulative GPA of 3.0 or higher in the DVM curriculum are eligible to enroll. Exceptions are possible upon approval by the coordinator in consultation with the faculty.

Fifteen hours are required:
AP850, ASI802, ASI902 and AP711 are required. ASI 902 may be taken either two or three times.

Any three of the remaining courses qualify for the remaining credit hour requirements. If BIOL707 is taken, BIOL541 may be required as a pre-requisite.

Meeting learning objectives

The core courses (AP711, AP850, ASI802, ASI902) are designed to ensure a benchmark level of knowledge about stem cell biotechnology. Elective courses are intended to allow for: (1) specific advancement toward research competence in the field or (2) commercialization of stem cell and related technology.

Courses in the certificate may be included in graduate programs upon approval of the student's major professor and advisory committee. Inclusion of courses from other institutions and programs may be substituted for credit in the certificate in stem cell biotechnology with the approval of the program director in consultation with associated faculty.

Need for the proposed program

Stem cell biotechnology and regenerative medicine are emerging as central to the future of human and animal medicine and animal production. A supply of new scientists in basic disciplines with orientation to, or specific training in, stem cell biotechnology will be a necessary part of advancing this area of science, especially as political and social issues are untangled. The research and entrepreneurship tracks provided in the program will allow career flexibility that is becoming an ever-greater necessity for students.

It seems evident that, at this stage of the Institute's development, a graduate level certificate is best suited to capitalize upon the on-going research and intellectual property development. Once a certificate program is successfully established and a significant track record has accrued, consideration will be given to proposal of an interdisciplinary degree. However that would be premature at this juncture and in the near future.

The target audience for the proposed certificate includes graduate students in all the biological sciences, specifically including animal science, veterinary medicine, biology and biochemistry. Also some residents in clinical medicine and surgery may find it advantageous to gain increased expertise in the rising field of regenerative medicine. In addition students in the DVM curriculum that have aspirations toward research or corporate careers would find the certificate in stem cell biotechnology valuable.

Organization and Administration

The governing faculty for the certificate in stem cell biotechnology is comprised of the Kansas State University Founding Fellows of the Midwest Institute for Comparative Stem Cell Biology (see website http://www.vet.ksu.edu/research/stemcell/index.htm). The program director will be Duane L. Davis.

The administrative home of the certificate program will be the Institute. The governance of the Institute is explained on the website. Briefly, the Institute is situated administratively in the Office of the Vice President for Research. Oversight is provided by a liaison committee comprised of the Vice President for Research, the Dean of the College of Veterinary Medicine, the Dean of the College of Agriculture and the Vice Chancellor for Research of the University of Kansas Medical Center and an Executive Committee described in the website.

An extensive list of scientists and other faculty members are affiliated with the institute and are listed in the website. These individuals provide a ready source of highly qualified advisors to students in the certificate program.

Budget

The budget is anticipated to be nominal in that all of these courses in the program will be taught for other purposes also.

Faculty

The Founding Fellows of the institute at Kansas State University are Dr. Duane Davis, ASI; Dr. Deryl Troyer, AP; Dr. Mark Weiss, AP. These individuals, along with the program director, will supervise the program.

Program Director

The program director will be Dr. Duane L. Davis, Professor of Animal Sciences and Industry.

Learning outcomes and assessment

Learning outcomes and an assessment plan is attached.

Cover Sheet for Student Learning Outcomes

Directions: For each program (e.g., degree, certificate, minor, secondary major, etc.) and level (undergraduate and graduate), please complete separate cover sheets. Feel free to make copies of this sheet if needed. Those graduate programs with an integrated master's and doctoral program may provide one set of cover sheets.

Department / Unit: Midwest Institute for Comparative Stem Cell Biology
Title of Academic Program: Graduate Certificate in Stem Cell Biotechnology

Faculty contact(s) for the list of student learning outcomes for this academic program:

Duane Davis _____ _____

_____ _____

_____ _____

Type of Degree (check one):

☐ Bachelor's ☐ Master's ☐ Ph.D. ☐ Ed.D.

☐ U. Certificate ☐ Minor ☐ Secondary major ☐ Associate

☒ G. Certificate

☐ Joint Degree (list the degree types): _____

☐ Other: _____

List of Student Learning Outcomes for this Degree Program

Please provide an attached list of learning outcomes or copy and insert them below.

1. Students completing the Graduate Certificate in Stem Cell Biotechnology will know cellular and molecular qualities that define stem cells; where stem cells may be found; and how stem cells can be isolated.

2. Students completing the Graduate Certificate in Stem Cell Biotechnology will posses the knowledge and skills that allow them to critically evaluate the peer-reviewed literature in stem cell biology.

3. Students completing the Graduate Certificate in Stem Cell Biotechnology will understand the emerging areas of application of stem cells in regenerative medicine and food animal health and production.

4. Students completing the Graduate Certificate in Stem Cell Biotechnology will possess skills in culture of mammalian stem cells.

5. Students completing the Graduate Certificate in Stem Cell Biotechnology will posses the knowledge, skills and social understanding to critically evaluate and articulate the range of ethical issues associated with stem cell biology.

Please check the description(s) that best reflect the information being submitted.

☐ Faculty for The Midwest Institute for Comparative Stem Cell Biology have reviewed and endorse the list of student learning outcomes being submitted.	Date of Endorsement: _____

_____ _____

Director, Midwest for Comparative Stem Cell Biology Signature — Date

_____ _____

Dean of the Graduate School's Signature (Required for Graduate Degree Programs) — Date

Template
Degree Program
Assessment of Student Learning Plan
Kansas State University

X Check the box if your program's student learning outcomes have been modified since November 2003. If so, please email (apr@ksu.edu) or attach a hard copy to this document.

College, Department, and Date

Colleges: Veterinary Medicine and Agriculture
Department: Anatomy and Physiology; Animal Sciences and Industry
Date: February 23, 2007

Contact Person(s) for the Assessment Plans

Dr. Duane Davis

Degree Program

Graduate Certificate in Stem Cell Biotechnology

Assessment of Student Learning Three-Year Plan
Student learning outcomes:

1. Students completing the Graduate Certificate in Stem Cell Biotechnology will know cellular and molecular qualities that define stem cells; where stem cells may be found; and how stem cells can be isolated.

2. Students completing the Graduate Certificate in Stem Cell Biotechnology will posses the knowledge and skills that allow them to critically evaluate the peer-reviewed literature in stem cell biology.

5. Students completing the Graduate Certificate in Stem Cell Biotechnology will posses the knowledge, skills and social understanding to critically evaluate and articulate the range of ethical issues associated with stem cell biotechnology.

Relationship to K-State Student Learning Outcomes (insert the program SLOs and check all that apply):

	University-wide SLOs (<u>Graduate</u> Programs)			*Program SLO is conceptually different from university SLOs*
Program SLOs	*Knowledge*	*Skills*	*Attitudes and Professional Conduct*	
1. Know cellular and molecular qualities that define stem cells; where stem cells may be found; and how stem cells can be isolated.	*X*			*Program SLO is consistent with University SLO.*
2. Posses the knowledge and skills that allow them to critically evaluate the peer-reviewed literature in stem cell	*X*	*X*		*Program SLO is consistent with University SLO.*

biology.				
5. Posses the knowledge, skills and social understanding to critically evaluate and articulate the range of ethical issues associated with stem cell biology.			*X*	*Program SLO is consistent with University SLO.*

How will the learning outcomes be assessed? What groups will be included in the assessment?

	University-wide SLOs (<u>Graduate</u> Programs)			*Program SLO is conceptually different from university SLOs*
Program SLOs	*Knowledge*	*Skills*	*Attitudes and Professional Conduct*	
1. Know cellular and molecular	*1. Direct measure—Capstone*			*Program SLO is consistent with University SLO.*

qualities that define stem cells; where stem cells may be found; and how stem cells can be isolated.	*exam.* *2. Indirect measure—Career placement of certificate graduates.*			
2. Posses the knowledge and skills that allow them to critically evaluate the peer-reviewed literature in stem cell biology.	*1. Direct measure—Paper presentations and participation in paper discussions in ASI 902 Topic/Stem Cell Biotechnology.*	*1. Direct measure—Oral paper presentations and participation in paper discussions in ASI 902 Topic/Stem Cell Biotechnology.*		*Program SLO is consistent with University SLO.*
5. Posses the knowledge, skills and social			*1. Direct measure—Attitude survey administered in ASI 902 Topics/Stem Cell*	*Program SLO is consistent with University SLO.*

understanding to critically evaluate and articulate the range of ethical issues associated with stem cell Biotechnology.			*Biotechnology*	

When will these outcomes be assessed? When and in what format will the results of the assessment be discussed?

1. Students completing the Graduate Certificate in Stem Cell Biotechnology will know cellular and molecular qualities that define stem cells; where stem cells may be found; and how stem cells can be isolated.

a. Upon completion of the coursework requirements for the Graduate Certificate in Stem Cell Biotechnology, all certificate seeking students will be expected to take a web-based comprehensive capstone exam covering fundamental aspects of stem cell biology (exam will be updated annually to reflect new developments in the field). Results of the exam will be shared with individual students upon completion. It is expected that students completing the Certificate will score 80 % or greater on the capstone exam. It is recommended that Ph.D. students take the exam prior to, or as a part of, their preliminary examinations and, at the discretion of their graduate committee, it could serve as a part of the determination of their readiness to enter candidacy for the Ph. D. degree.

b. Core scientists in teaching courses and conducting research through the Midwest Institute for Comparative Stem Cell Biology will be heavily engaged in training students that ultimately are awarded the Graduate Certificate in Stem Cell Biotechnology. It is expected that these students will secure employment in academia or allied industries in biomedical sciences. Therefore, placement of all graduate and DVM students after completion of their degrees will be tracked to gain indirect evidence that the Certificate may be adding value to master, doctoral and DVM degrees. Data will be gathered via a web-based survey of graduates administered within 12 months of graduation.

2. Students completing the Graduate Certificate in Stem Cell Biotechnology will posses the knowledge and skills that allow them to critically evaluate the peer-reviewed literature in stem cell biology.

a. All students completing the Graduate Certificate will be required to enroll in ASI 902 Topics/Stem Cell Biotechnology. A rubric has been developed (attached) to assess student's working knowledge of stem cell biology as well as their oral communication skills in discussing stem cell biology.

3. Students completing the Graduate Certificate in Stem Cell Biotechnology will understand and have the skills to articulate the emerging areas of application of stem cells in regenerative medicine and food animal health and production.

4. Students completing the Graduate Certificate in Stem Cell Biotechnology will possess skills in culture of mammalian stem cells.

5. Students completing the Graduate Certificate in Stem Cell Biotechnology will posses the knowledge, skills and social understanding to critically evaluate and articulate the range of ethical issues associated with stem cell biology.

a. All students will complete a survey that evaluates attitudes toward the diversity of ethical views surrounding the use of stems cells in animal research and therapeutics. The ability of students to be tolerant and understanding of diverse views will make them more effective professionals once in the workplace. This web-based survey will be updated annually to include developing concerns and views and will be administered to all students in their first semester of enrollment in ASI 802 and again in their final semester in ASI 902 (coincident with completion of the coursework requirements for the Certificate). Completion of both surveys will be a requirement for successful completion of the Certificate.

What is the unit's process for using assessment results to improve student learning?

The faculty coordinator for ASI 902 in each fall semester offering of the course will be responsible for summarizing assessment data for Certificate graduates from the previous academic year, as well as comprehensive data accumulated from all Certificate graduates (at least three years may be required to accumulate sufficient numbers of Certificate graduates to obtain some measure of reliability of the data). The data will be presented to both core faculty and graduate students sometime during the first four meetings of ASI 902. The data will be discussed (among faculty and students) and where results of assessment point to failure to attain the expected outcome, a corrective course of action will be recommended. This course of action may point to appropriate changes in curriculum and(or) fine tuning of assessment tools.