

**PURDUE UNIVERSITY
GRADUATE SCHOOL**

Minutes of the Graduate Council Meeting
October 17, 2013
1:30 p.m.

Second Meeting
Room 322
Stewart Center

PRESENT: Mark J. T. Smith, chair; Council Members, Thomas W. Atkinson, John M. Barron, Lesa K. Beals, Janna L. Beckerman, Barrett S. Caldwell, Joy L. Colwell, Stacey L. Connaughton, Heidi A. Diefes-Dux, Nancy E. Edwards, Daniel S. Elliott, Frederick S. Gimble, Linda M. Hite, Jessica E. Huber, James B. Hylton, Kumara Jayasuriya, Michael E. Kreger, Eric P. Kvam, Mark A. Lipton, Linda J. Mason, James L. Mullins, Phillip E. Pope, John H. Schild, Keith E. Schwingendorf, Jon A. Story, J. Jill Sutor, Joseph Thomas III, Candiss B. Vibbert (Provost's Representative), Jane A. Walker, Jeffrey L. Whitten, Yan Ping Xin, Howard N. Zelaznik

APOLOGIES FOR ABSENCE RECEIVED FROM: Subramanian Balachander, Chrystal S. Johnson, Suresh K. Mittal, George S. Mourad, Bill V. Mullen, Glenn R. Parker, Mary A. Sadowski, David G. Skalnik, H. Holly Wang

GUESTS: Janet Beagle, Debbie Fellure, Audeen Fentiman, Colleen Gabauer, Jane Kirkpatrick, Cyndi Lynch

I. MINUTES

The minutes of the October 17, 2013, Graduate Council meeting were approved as distributed.

II. NEW BUSINESS

Dr. Smith introduced Dr. Lee-Ellen Kirkhorn, Professor and Chair in the Department of Nursing, Indiana University Purdue University Fort Wayne (IPFW). Dr. Kirkhorn presented *Graduate Council Document 13-12b, Systemwide Collaboration to Deliver the Doctor of Nursing Practice (DNP)*. She stated that the proposal is a collaboration between the West Lafayette, Fort Wayne, and Calumet campuses.

The proposers are Peggy S. Gerard, Interim Vice Chancellor for Academic Affairs and Dean, College of Nursing, Purdue University Calumet; Lee-Ellen Kirkhorn, Head, Department of Nursing, Indiana University Purdue University, Fort Wayne; Jane M. Kirkpatrick, Associate Dean, College of Health and Human Services and Head, School of Nursing, Purdue University,

West Lafayette; and Carol Sternberger, Associate Vice Chancellor for Faculty Development, Indiana University Purdue University, Fort Wayne.

Dr. Kirkhorn noted that the DNP degree program is a practice doctorate. This differs from the Ph.D. research doctorate. The DNP is similar to many other practice degrees that are offered in departments such as Pharmacy and Biology.

Dr. Kirkhorn noted that extensive work has been done on this proposal by several academic and administrative areas including the nursing programs from all campuses, Registrar, Purdue Extended Campus, College of Health and Human Sciences, Bursar, Budget and Fiscal Planning, the Purdue University Graduate School, Chancellors, Vice Chancellors, Deans, Provost, and the President. She stated that support has been consistent from all areas. The systemwide delivery will utilize distance technologies and also have clinical intensives. The School of Nursing, Purdue University West Lafayette, will continue to offer their existing accredited DNP on campus and expanding their online delivery. Calumet and IPFW will have the authority to admit, enroll, and graduate DNP students. The residency hours would be completed in the student's geographical area.

She stated that there is a critical and growing need for the DNP. There is a need to more than double the amount of practicing nurses at this level by the year 2020.

In the proposal, you will find that there is a core curriculum that allows sharing of courses and faculty expertise. Student centered goals for the system delivery are online delivery to accommodate working professionals, a central portal, avoiding duplicate registration across campuses, consistent BlackBoard, and access to libraries. In addition the program will provide high-quality instruction and maximize faculty expertise in a time of national nursing faculty shortage.

A copy of Dr. Kirkhorn's presentation is found in Appendix A. Dr. Kirkhorn stated that this is an exciting alliance: collaboration across the Purdue system will strengthen our capacity to deliver the DNP program, ultimately changing the face of healthcare and enhancing clinical practice for patient's point of care.

III. DEANS REMARKS AND REPORTS

- a) Dr. Smith noted that he had recently attended the Council on Graduate School (CGS) meeting. It was announced that the president of the CGS, Deborah Stewart, has decided after many years to step down. They will be conducting a search for a new president. Dr. Smith noted that Dr. Stewart was exceptional at running the meetings and will be missed.
- b) Dr. Smith shared some of the topics of discussion from the recent Council of Graduate School's Global Summit in Budapest. He stated that we hear about what is happening in graduate education from our own state and national professional societies, but this is the first time that he had been to an international summit on graduate education. He wanted to share what was on

the minds internationally. Every continent was represented by deans and graduate education leaders.

One of the top issues for discussion was Massive Open Online Courses (MOOCs). Dr. Smith noted that it was very interesting to him that alliances are being formed internationally in Europe and other countries where they may have ten schools that have collaborated to share courses under the banner of MOOCs. He stated that it reminded him of what we are trying to accomplish just within Indiana.

The attendees were also very interested in international rankings. Many noted that the chancellors and their governments are asking questions about rankings and questioning why a university may not be as high up as they should be on a particular ranking. There is pressure to look at how the rankings are calculated and to make changes to move up. However, Dr. Smith noted that as educational institutions we do not want to be driven by rankings.

Dr. Smith mentioned that student exchanges were discussed. He noted that in other countries, it seems to be much more important than it is to the United States. We are all interested in international exchanges but there is a higher waiting internationally. He noted that this may be one of the primers for the international rankings.

A final topic that he wanted to share was the Three Minute Thesis (3MT) presentations. We just started doing this on our campus but internationally many countries have been doing this for some time. It was interesting to hear how popular this tool was among the other attendees.

- c) Dean Mark Smith stated that the Graduate School deans were in the process of revising the Graduate School's *Policies and Procedures for Administering Graduate Student Programs* manual. He asked for the council members to review the language in Section VII which states, "*Should the preliminary examination be failed twice, the student may not be given a third examination, except upon the recommendation of the examining committee and with special approval of the Graduate Council.*" Dr. Smith stated that the manual revision committee would like to change this special approval to "Graduate School". They felt that this type of approval was not very practical for the council and could easily be handled administratively. The members were provided with a copy of this section of the manual. The council members were in favor of making this update to the manual. Dr. Smith stated that he would give the members one month to review the proposed change and a vote would be taken at the November 21st council meeting.
- d) Dr. Pope announced recent proposal approvals:
- A proposal for an Online Master of Science degree in Education, Department of Educational Studies, PWL, has been approved by the Graduate School and the Provost. Final approval is required from the Indiana Commission for Higher Education (ICHE).
 - A proposal for an Online Master of Science degree in Communication, Brian Lamb School of Communication, PWL, has been approved by the Graduate

School and the Provost. Final approval is required from the Indiana Commission for Higher Education (ICHE).

He noted that we have been informed that the commission has had recent staffing changes and they are behind on their approvals. This type of approval will be done through routine staff action and the Graduate School will be notified of the outcome.

- e) Dr. Tom Atkinson presented the West Lafayette Fall 2013 Enrollment Report. Dr. Atkinson briefed the council members on last summer, given the University's desire to bolster the number of students on campus during the summer months. There were 5,289 graduate students enrolled in the Graduate School last summer, almost two-thirds of them doctoral students. He noted that this is clearly a record for the past five years and probably an all-time record.

Dr. Atkinson stated that a record 8,407 students are enrolled on the West Lafayette campus. Almost 53% are doctoral students. Over the past five years, we have observed an increase in master's enrollment, likely very much tied to the new master's programs approved by the Graduate Council. He noted that just over 30% of all West Lafayette graduate students are enrolled part-time with fewer than eight credits.

At a time in this country when there are more women than men in graduate school, we seem anchored around 62% men and 38% women. It is basically unchanged from a decade ago. The Council of Graduate Schools recently reported that 58% of all new graduate students in Fall 2012 were women.

Overall minority enrollment is just over 20% of all domestic students. In 2009, the Graduate School's strategic plan called for doubling the number of underrepresented minority students enrolled in the Graduate School. While that goal has not yet been reached, underrepresented enrollment, which does not include Asian Americans, has increased from 471 graduate students in 2009 to 588 this fall.

Enrollment of Indiana residents is just over 19% which may be a new low percentage despite considerable outreach to campuses in the State of Indiana. Ten years ago, the percentage of Hoosiers enrolled was 23%. However, the number of Hoosiers enrolled is actually 14 more than a decade ago. Thus, our considerable growth over time has been with nonresident students.

Dr. Atkinson stated that the percentage of international students continues to edge up. We are now at almost 44%. The College of Engineering has the most international students (1,619) making up about 54% of the graduate student body there. In addition, the 2009 strategic plan called for doubling the number of students from the continents of Africa, Europe, and South America. We started at 490 graduate students from these continents in 2009 and are now at 598.

Engineering has, by far, the largest graduate enrollment with 3,016 graduate students now enrolled. In comparison, ten years ago, Engineering's graduate

enrollment was 2,358, so we are seeing phenomenal growth there that very likely is not over. On the other hand, the College of Veterinary Medicine has 95 master's and Ph.D. students, the smallest graduate enrollment.

Dr. Atkinson noted that the Graduate School admitted about 27% of all applicants for Fall 2013, and of those admitted, almost 47% chose to accept our offer of admission. That yield is, at least, a five-year high and notable at a time when most applicants are applying to more graduate programs. Dr. Atkinson thanked the council members for their efforts that motivate admitted students to choose Purdue.

- f) Dr. Linda Hite, Fort Wayne campus, presented their Fall 2013 Enrollment Report. Dr. Hite stated that the report lists both Purdue and IU programs. The programs with the greatest increase in enrollment on the Purdue side were Computer Science at around 40%, Nursing at 25%, Mathematics up 17%, and Organizational Leadership & Supervision is up 14%. At the same time, there have been some declines in enrollment across campus. These programs were Biology, Education, Engineering, and Technology. This is a concern to the Fort Wayne campus and they are taking steps to increase these enrollments.

IV. AREA COMMITTEE REPORTS

Graduate Council Document 13-F, New Courses Recommended for Approval

Dr. Smith reviewed the process for approval of new proposals.

Area Committee C, Engineering, Chemistry, and Physical Sciences (Michael E. Kreger, chair: kreger@purdue.edu):

Graduate Council Document 13-18a, ABE 55700 Transport Operations in Food and Biological Systems II (PWL)

Graduate Council Document 13-18b, ABE 55800 Process Design for Food and Biological Systems (PWL)

Graduate Council Document 12-29b, ABE 69400 Graduate Research Training (PWL)

Graduate Council Document 13-10b, ECE 54000 Antenna Design, Analysis and Simulation Methods (IPFW)

Graduate Council Document 13-10a, ECE 69401 Electrical and Computer Engineering Graduate Seminar (IUPUI)

Dr. Michael Kreger presented five courses for consideration. Dr. Smith asked if anyone would like to remove any of the courses from the block for discussion. Dr. Kreger requested that ECE 69401 be pulled for further discussion. The remaining four courses were approved as a block by the council, upon a motion by Dr. Kreger.

Graduate Council Document 13-10a, ECE 69401 Electrical and Computer Engineering Graduate Seminar (IUPUI) was discussed. Dr. Kreger stated that the department would like to add "Full-Time Privilege" to the attributes. Lesa Beals, Interim Registrar, stated that Full-Time Privilege attributes a full-time enrollment status for the purpose of reporting to

the national student clearing house. This is for an in-school deferment for a course that typically would not meet the Graduate School requirement of having to be enrolled in eight credits to be considered full-time for a term. Mrs. Beals stated that she had consulted with the department head on the IUPUI campus and learned that the main purpose behind this request is so that their international students can certify their visa status. Her recommendation was that a new course was not the best solution to satisfy the visa requirement, but she offered to reach out to those departments on the IUPUI campus to see if they could offer a better solution. Council member, Dr. John Schild, IUPUI, agreed that a better solution was needed. He noted that there were many challenges to this issue. He stated that he would work with the department and the Office of the Registrar to solve this issue in the best manner possible. The chair of Area Committee C, Dr. Kreger, recommended that the course be approved as recommended on the original Form 40G, without the full-time privilege box checked. The course was approved as amended, upon a motion by Dr. Kreger.

Area Committee E: Life Sciences (Nancy E. Edwards, chair; edwardsn@purdue.edu):
Graduate Council Document 13-12a, Proposal to Update Curriculum for Doctor of Nursing Practice Degree Program, School of Nursing, PWL

Dr. Nancy Edwards presented a proposal to update the curriculum for the existing Doctor of Nursing Practice (DNP) degree program on the West Lafayette campus. She stated that the DNP started in 2005 and was the first in the state. In 2006, the accrediting agency set the guidelines and stated that the DNP program should have 1000 clinical hours. When Purdue University, West Lafayette, developed their program in 2005 the required clinical hours were set at 1,654 for BS to DNP, and the post MS to DNP at 1,524 clinical hours.

The School of Nursing is proposing to drop two courses, NUR 68100 and one clinical elective. This will bring the requirements down to a post MS of 1,204 clinical hours and the BS to DNP at 1,334 clinical hours, which is still above the required 1,000 hours. For comparison, she noted that Indiana University is at 37 credit hours with 1,000 clinical hours, the University of Michigan is 36 credits with 1,000 clinical hours, and the University of Wisconsin is at 33 credits with 1,000 clinical hours. So by reducing the required clinical hours we would be competitive and still maintain the rigor of the program.

The proposal was approved upon a motion by Dr. Edwards.

Area Committee F, Management Sciences (John Barron, chair; barron@purdue.edu):
Graduate Council Document 13-13a, Proposal to Add a Thesis Option to an Approved Degree Program, MS Degree in Economics, (submitted by Department of Economics, Krannert School of Management) PWL

Dr. Jack Barron presented a proposal to add a thesis option to their existing Master of Science degree program in Economics. He noted that the current requirement for the non-thesis option is 30 credit hours of on-campus work. The proposal for a new thesis option was approved upon a motion by Dr. Barron.

V. PURDUE GRADUATE STUDENT GOVERNMENT -- PRESIDENT'S REPORT

Mr. Blake Hylton, President of the Purdue Graduate Student Government (PGSG) reported on the recent activities of the PGSG since the last council meeting. He noted that the PGSG was working on being more visible on campus and in the community.

In the area of collaboration, they have worked on the absence policy for military personnel on mandatory training, continued regular meetings, and continued efforts to collaborate with regional campus student leaders and graduate organizations.

Mr. Hylton also noted that the PGSG initiatives this year are Student Legal Services and Summer Teaching Assistant expansion. Major events have been the Big 10+ Grad Expo, coming up on the 20th of October, and a Child Wellness Day on the 25th.

VI. OLD BUSINESS

Dr. Smith presented to the council members *Graduate Council Document 13-11a, Proposal to Modify Graduate School Course Approval Policy*. He noted that the members were provided a copy of the proposal in April 2013 and it had been listed on the September minutes (as required). However, he stated that the proposal had been discussed at the Regional Campus Representatives meeting that is held prior to the council meeting, and there were several areas of the proposal where the members needed clarification. Dr. Smith made the decision to provide that additional clarification with the guidance from the regional campus representatives in order to present to the council members a proposal with more detail. Voting will be postponed until the next meeting on November 21, 2013. The regional campus representatives have assured Dr. Smith that they will help to identify those areas that are unclear to them in the proposal.

VII. CLOSING REMARKS AND ADJOURNMENT

Dr. Smith stated that there would be two additional committee meetings held immediately after the council meeting. The Graduate Council Executive Committee will meet in Stewart Center, room 322. Representatives from the Technology programs on the West Lafayette and Indianapolis campuses will be meeting in Stewart Center, room 320.

The council meeting was adjourned by Dr. Smith at 3:00 p.m.

Mark J. T. Smith, Chair

Tina L. Payne, Secretary

APPENDIX B

PENDING DOCUMENTS

(November 2013)

Area Committee A, Behavioral Sciences (Heide Diefes-Dux, hdiefes@purdue.edu):

Graduate Council Document 13-15a, ART 51500 Introduction to Facilities Engineering Systems (IUPUI)

Graduate Council Document 13-14a, AT 54000 Aviation and Aerospace Sustainability (PWL)

Graduate Council Document 13-14b, AT 54200 Aviation Fuels and Exhaust Emissions (PWL)

Graduate Council Document 13-14c, AT 54400 Aircraft Lifecycle Management Innovations (PWL)

Graduate Council Document 13-14d, AT 54600 Aviation Financial Instruments and Operations (PWL)

Graduate Council Document 12-37a, BCM 51000 Topics in Environmentally Sustainable Construction, Design & Development (PWL)

Graduate Council Document 12-44a, CGT 61100 Computer Graphics Production Pipeline and Project Management (PWL)

Graduate Council Document 13-20a, CMET 58100 Workshop in Construction Management & Engineering Technologies (PUC)

Graduate Council Document 13-20b, CMET 59000 Independent Study in Construction Management & Engineering Technologies (PUC)

Graduate Council Document 13-3f, IET 58100 Workshop in Industrial Engineering Technology (IUPUI)

Graduate Council Document 13-3g, IET 58100 Workshop in Industrial Engineering Technology (PUC)

Graduate Council Document 13-3h, IET 59000 Special Problems in Industrial Engineering Technologies (PUC)

Graduate Council Document 13-16a, ITS 55200 Digital Forensics (PUC)

Graduate Council Document 13-16d, ITS 55400 Intrusion Detection and Prevention Systems (PUC)

Graduate Council Document 13-16b, ITS 58100 Workshop in Computer Information Technology (PUC)

Graduate Council Document 13-16c, ITS 59000 Independent Study in Computer Information Technology (PUC)

Graduate Council Document 11-7f, TECH 50900 Managing Information Technology (PUC)

Pulled for further review by area committee and council members. **NOTE:** Tabled per Area Committee Chair on 1/15/13; waiting on a reply from the department.

Graduate Council Document 12-24b, TECH 57800 Energy Resource Management (PUC)

Graduate Council Document 11-7m, Graduate Certificate in Sustainability, College of Technology (PWL) Pending additional information from department.

Graduate Council Document 12-19a, Graduate Certificate in Gifted, Creative, and Talented Education, Dept. of Educational Studies (PWL)

Graduate Council Document 12-21a, Graduate Certificate in Sustainable Energy Technology, School of Technology (PUC)

Area Committee B, Life Sciences (Stacey L. Connaughton, chair; sconnaug@purdue.edu):

Graduate Council Document 13-2a, CEMT 58100 Workshop in Technology (IUPUI)

Graduate Council Document 13-9a, ECET 53800 Energy Management for Buildings (IUPUI)

Graduate Council Document 13-9b, **ECET 54500 Management of IT, Telecommunications, and Video Infrastructure** (IUPUI)

Graduate Council Document 13-5a, **EDCI 53800 Human Issues in Instructional Technology** (PUC)

Graduate Council Document 13-6b, **EDFA 53900 School Administration: The Effective School Executive** (PUC)

Graduate Council Document 13-6a, **EDFA 61700 Legal Aspects in American Education II** (PUC)

Graduate Council Document 13-4h, **EDPS 50900 Expressive Arts: Music, Movement, and Spiritual Expression** (PUC)

Graduate Council Document 13-4i, **EDPS 51100 Expressive Arts Professional Project: Healing Through the Arts** (PUC)

Graduate Council Document 13-4j, **EDPS 51200 Expressive Arts: Painting, Poetry and Dreams** (PUC)

Graduate Council Document 13-4k, **EDPS 51300 Expressive Arts: Symbolism in Expressive Arts** (PUC)

Graduate Council Document 13-4b, **EDPS 51600 Addictions Seminar I: HIV/AIDS and Dual Diagnosis** (PUC)

Graduate Council Document 13-4c, **EDPS 51700 Addictions Seminar II: Ethics, Criminal Justice, and Social Systems** (PUC)

Graduate Council Document 13-4a, **EDPS 51800 Introduction to Special Education** (PWL)

Graduate Council Document 13-4d, **EDPS 52100 Counseling and Psychopathology** (PUC)

Graduate Council Document 13-4e, **EDPS 52200 Crisis Intervention and Emergency Management** (PUC)

Graduate Council Document 13-4l, **EDPS 52300 Human Growth and Development** (PUC)

Graduate Council Document 13-4m, **EDPS 52600 Integrating Students with Special Needs: A Civil Rights Movement** (PUC)

Graduate Council Document 13-4n, **EDPS 52800 Research in Counseling** (PUC)

Graduate Council Document 13-4f, **EDPS 52900 Techniques of Addictions Counseling: Counseling Skills, Groups, and Processes** (PUC)

Graduate Council Document 13-4g, **EDPS 53900 Ethics and Professional Identity for Mental Health Counselors** (PUC)

Graduate Council Document 13-4o, **EDPS 54600 Addictions Practicum**

Graduate Council Document 13-3a, **IET 51500 Introduction to Facilities Planning and Management** (IUPUI)

Graduate Council Document 13-3b, **IET 53000 Facilities Contract Management** (IUPUI)

Graduate Council Document 13-3c, **IET 53500 Facilities Maintenance and Operation** (IUPUI)

Graduate Council Document 13-3d, **IET 55000 Financial Aspects of Facilities Management** (IUPUI)

Graduate Council Document 13-3e, **IET 57500 Supply Chain Logistics Operations in Facilities and Industry** (IUPUI)

Graduate Council Document 12-31a, **ITS 54000 Mobile Application Development** (PUC)

Area Committee C, Engineering, Chemistry, and Physical Sciences (Michael E. Kreger, chair; kreger@purdue.edu):

Graduate Council Document 13-21a, ENGR 50000 Global Design Team V (PWL)

Graduate Council Document 11-24a, FS 50200 Food Plant Sanitation (PWL) Pending additional information from department.

Area Committee D, Humanities & Social Sciences (Glenn R. Parker, chair: parker6@purdue.edu):

Graduate Council Document 12-12a, ANTH 61200 Seminar in the Anthropology of Food and Nutrition (PWL) Hold per faculty members request

Graduate Council Document 13-17a, WOST 59900 Selected Topics in Women's Gender and Sexuality Studies, (PWL)

Graduate Council Document 12-45a, WOST 68300 Graduate Proseminar in Women's, Gender, Sexuality Studies (PWL)

Graduate Council Document 12-2a, Graduate Certificate in Professional Selling and Customer Relationship Management, Dept. of CSR, PWL

Interdisciplinary

Graduate Council Document 13-7a, Interdisciplinary Graduate Degree Guidelines – Proposal – Submitted by J. Story

Area Committee E: Life Sciences (Nancy E. Edwards, chair; edwardsn@purdue.edu):

Graduate Council Document 13-23a, HSCI 57100 Molecular Imaging (PWL)

Graduate Council Document 13-22a, VCS 69900 Research PhD. Thesis (PWL)

Graduate Council Document 13-12b, Systemwide Collaboration to Deliver the Doctor of Nursing Practice Degree Program (PWL, IPFW, PUC)

Area Committee F: Management Sciences, (John M. Barron, chair: barron@purdue.edu):

Graduate Council Document 13-19a, STAT 52501 Generalized Linear Models (IUPUI)

APPENDIX C

NEW DOCUMENTS RECEIVED (after the October 17, 2013, council meeting)

Area Committee A, Behavioral Sciences (Heidi Diefes-Dux, chair; hdiefes@purdue.edu):

Graduate Council Document 13-28a, OLS 57200 Labor Arbitration (PUC) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minutes. Credit 3. Prerequisites: Graduate student standing, or upper-class status with instructor approval. Graduate students with insufficient background may be required to take leveling courses.

This course is designed to provide students with a comprehensive study of contemporary labor arbitration issues facing supervisors and human resources professionals, and to provide students with a familiarity with the arbitration process, including discipline, grievance and hearing. Course may be offered in traditional, distance, or blended format. Professor Jenks.

Graduate Council Document 13-24a, Graduate Certificate in Human Resource Development (IUPUI), School of Engineering and Technology, Department of Technology Leadership and Communication.

Area Committee C, Engineering, Chemistry, and Physical Sciences (Michael Kreger, chair; kreger@purdue.edu):

Graduate Council Document 13-26a, CHE 55100 Principles of Pharmaceutical Engineering (PWL) Sem. 1. Lecture 3 times per week for 50 minutes. Credit 3. Concurrent Prerequisite: BIOL 23000. Prerequisites: CHM 26100 and CHM 26300.

This course is designed to provide engineering, science and pharmacy students with an understanding of the structure, economic and regulatory context, product discovery and development pipeline dynamics, intellectual property considerations and common manufacturing technology of the global pharmaceutical industry. Professor Reklaitis.

Graduate Council Document 13-26b, CHE 55300 Pharmaceutical Process, Development and Design (PWL) Sem. 2. Lecture 3 times per week for 50 minutes. Credit 3. Concurrent Prerequisites: CHE 34800 and CHE 45600. Prerequisites: CHM 30600 and CHM 37800.

This course introduces the engineering methodologies involved in translating a laboratory recipe for a drug compound produced via synthetic organic chemistry methods to an industrial process. The basic features of common unit operations used in the pharmaceutical industry will be reviewed, including batch reaction, solid-liquid separation, crystallization, drying, mixing, batch distillation and other separation systems. Both dedicated and multi-product production system design and batch and semi-continuous operating models will be covered. Professor Reklaitis.

Graduate Council Document 13-29a, ENGR 69199 Professional Practice Graduate Co-Op I (PWL) Sem. 1 and 2. SS. Experiential. Credit 0. Restrictions: Graduate Professional Practice students only.

Graduate cooperative education experience. Program coordinated by the Office of Professional Practice with cooperation from academic disciplines and participating employers. Students submit technical report and company evaluation. Professor Groll.

Graduate Council Document 13-29b, **ENGR 69299 Professional Practice Graduate Co-Op II** (PWL) Sem. 1 and 2. SS. Experiential. Credit 0. Prerequisite: ENGR 69199. Restrictions: Graduate Professional Practice students only.

Graduate cooperative education experience. Program coordinated by the Office of Professional Practice with cooperation from academic disciplines and participating employers. Students submit technical report and company evaluation. Professor Groll.

Graduate Council Document 13-29c, **ENGR 69399 Professional Practice Graduate Co-Op III** (PWL) Sem. 1 and 2. SS. Experiential. Credit 0. Prerequisite: ENGR 69299. Restrictions: Graduate Professional Practice students only.

Graduate cooperative education experience. Program coordinated by the Office of Professional Practice with cooperation from academic disciplines and participating employers. Students submit technical report and company evaluation. Professor Groll.

Graduate Council Document 13-29d, **ENGR 69499 Professional Practice Graduate Co-Op IV** (PWL) Sem. 1 and 2. SS. Experiential. Credit 0. Prerequisite: ENGR 69399. Restrictions: Graduate Professional Practice students only.

Graduate cooperative education experience. Program coordinated by the Office of Professional Practice with cooperation from academic disciplines and participating employers. Students submit technical report and company evaluation. Professor Groll.

Graduate Council Document 13-29e, **ENGR 69699 Professional Practice Graduate Internship** (PWL) Sem. 1 and 2. SS. Experiential. Credit 0.

Graduate internship experience. Program coordinated by the Office of Professional Practice with cooperation from academic disciplines and participating employers. Students submit technical report and company evaluation. Professor Groll.

Area Committee D, Humanities & Social Sciences (Glenn R.Parker, chair; parker6@purdue.edu):

Graduate Council Document 13-27a, **JWST 59000 Directed Readings in Jewish Studies** (PWL) Sem. 1 and 2. Independent Study. Credit 3.

A reading course in aspects of Judaica directed by the instructor in whose particular field of specialization the content of the reading falls. Instructor will vary.

Area Committee E, Life Sciences (Nancy E. Edwards, chair; edwardsn@purdue.edu):

Graduate Council Document 13-25a, **BIOL 54601 Topics in Infectious Diseases** (PWL) Sem. 1. Lecture 1 time per week for 50 minutes. Credit 1. Prerequisites: None for graduate students and BIOL 44600 for undergraduate students.

The course will discuss the history and current progress in infectious diseases with a focus on the cell biology of infectious diseases. Scientific publications will be selected based on their impact in the field and how it facilitates student learning. Students will acquire up-to-date knowledge of infectious diseases and be given instructional direction on how to select, read and present scientific findings. Professor Zhou.

Graduate Council Document 13-25b, **BIOL 55001 Eukaryotic Molecular Biology** (PWL) Sem. 2. Lecture 3 times per week for 50 minutes. Credit 3. Prerequisites: BIOL 41500 or equivalent, or permission of instructor.

Eukaryotic Molecular Biology will be a general survey course intended for advanced undergrads and beginning grad students. The course will draw upon examples from the plant, animal, and fungal kingdoms, and will familiarize students with the basic principles of molecular biology analyses as they apply to eukaryotic organisms. By the end of the course students should have knowledge of these molecular processes and should be able to design and analyze experiments dealing with these topics. This is not a first course in molecular biology. Professor Gelvin.