

## 2003-2004 Academic Year - GAC Summary

Proposal	Program	School	Description	GAC Action
Dual Degree	BS / MS Mechanical Engineering	Engineering & Technology	New dual degree	Approved
Program Revision	MSD	Dentistry	Thesis or Publication	Approved
Program Revision	M.S. in Education	Education	Revisions / Add U	Approved, with modifications
Name Change	M.S. in Health Sciences Education	Health & Rehabilitation Sciences	Change to M.S. in	Approved, with modifications
New Degree	M.S. in Occupational Therapy	Health & Rehabilitation Sciences	New Degree	Approved
New Certificate	Health Sciences Patient Centered Outcomes	Health & Rehabilitation Sciences	New Certificate	Approved
Program Revision	M.S. in Therapeutic Outcomes	Health & Rehabilitation Sciences	Course substitution	Approved
New Degree	Ph.D. in Informatics	Informatics	Dual campus deg	Approved
New Track	Master of Laws LL.M.	Law	New track in Intell	Approved
New Track	Master of Laws LL.M.	Law	New track in Inter	Approved
New Track	Master of Laws LL.M.	Law	New track in Heal	Approved
New Track	Master of Laws LL.M.	Law	New track in Inter	Approved, with modifications
Dual Degree	J.D. / M.L.S.	Law / Library Science	New dual degree	Approved
Program Revision	Ph.D. Minor in Philosophy	Liberal Arts	Revisions	Approved
New Certificate	Survey Research	Liberal Arts	New Certificate	Approved, with modifications
New Degree	M.A. in Political Science	Liberal Arts	New Degree	Approved
New Minor	Ph.D. Minor in Sociology	Liberal Arts	New Minor	Approved
Dual Degree	M.A. in Philosophy / J.D.	Law / Liberal Arts	New dual degree	Approved
Program Revision	Biotechnology Certificate	Medicine	Increase credit hr	Approved
Program Revision	M.S. in Medical & Molecular Genetics	Medicine	Increase credit hr	Approved
New Minor	Minor in Medical Biophysics / Biomolecular Im	Medicine	New Minor	Approved
Program Revision	Ph.D. in Medical Biophysics	Medicine	Revisions	Approved, with modifications
Program Revision	Ph.D. in Medical Neurobiology	Medicine	Credit hour reduction	Approved
New Degree	M.S. in Music Therapy	Music	New Degree	Approved, with modifications
New Certificate	Nursing Informatics	Nursing	New Certificate	Approved, with modifications
New Minor	Ph.D. Minor in Social Work	Social Work	New Minor	Approved, with modifications
Dual Degree	M.S. in Applied Statistics / M.A. in Economics	Science / Liberal Arts	New dual degree	Approved

Date	Disposition	Date
3/23/2004	Sent to Dean of Faculties	3/29/2004
2/24/2004	Approved by Graduate Cou	4/26/2004
4/27/2004	Sent to Dean of Faculties	6/1/2004
1/27/2004	Sent to Dean of Faculties	4/28/2004
3/23/2004	Sent to Dean of Faculties	4/28/2004
4/27/2004	Sent to Dean of Faculties	4/28/2004
10/28/2003	Sent to Dean of Faculties	11/5/2003
5/25/2004	Approved by Graduate Cou	4/26/2004
4/27/2004	Sent to Dean of Faculties	4/28/2004
11/25/2003	Sent to Dean of Faculties	12/4/2003
3/23/2004	Sent to Dean of Faculties	3/29/2004
4/27/2004	Sent to Dean of Faculties	5/4/2004
9/28/2003	Sent to Dean of Faculties	10/20/2003
5/25/2004	Sent to Graduate School	5/25/2004
5/25/2004	Sent to Graduate School	6/3/2004
1/27/2004	Approved by Graduate Cou	4/28/2004
4/27/2004	Sent to Graduate School	4/28/2004
4/27/2004	Sent to Graduate School	4/28/2004
10/28/2003	Sent to Graduate School	11/5/2003
8/26/2003	Approved by Graduate Cou	Sep-03
5/25/2004	Sent to Graduate School	5/25/2004
11/25/2003	Sent to Graduate School	1/13/2004
4/27/2004	Sent to Graduate School	4/28/2004
1/23/2004	Sent to Dean of Faculties	4/2/2004
11/25/2003	Sent to Graduate School	3/12/2004
11/25/2003	Sent to Graduate School	4/28/2004
5/25/2004	Sent to Graduate School	5/25/2004

Graduate Affairs Committee  
September 28, 2004  
3:30 p.m. - 5:00 p.m.  
UL 1126

**AGENDA**

1. Approval of the minutes for May 25, 2004..... Queener
2. Welcome and School Updates ..... All
3. Vice Chancellor's Report..... Brenner
4. Associate Dean's Report..... Queener
  - a. Broad of Trustees' degree approval schedule
  - b. Enrollment Management Council
5. Purdue Dean's Report..... Story
6. Graduate Office Report..... Koerner
  - a. Financial aid and fee remission
7. Committee Business
  - Curriculum Subcommittee Report ..... O'Palka
    - a. New instructional material on website
  - Fellowship Subcommittee Report..... Koerner
8. Program Approval..... Queener
  - a. 2003 – 2004 Program Approval Summary
  - b. MPH Environmental Epidemiology Track
  - c. MPH Quantitative Epidemiology Track
  - d. M.S. in Technology
  - e. Evening MBA – Marketing Major Proposal
  - f. MBA / MS Science Dual Degrees

Program Information Items

  - g. Update on PhD in Nursing Science
  - h. Ph.D. in Mechanical Engineering – West Lafayette and IUPUI Agreement
  - i. Ph.D. in Cellular & Integrative Physiology – Reduction in credit hours
  - j. Pharmacology & Toxicology – Add GRE as requirement for masters applicants
9. Discussion ..... Queener
  - a. Call for future topics
10. New Business.....
11. Next Meeting (October 26<sup>th</sup>) and adjournment

**Graduate Affairs Committee**  
**September 28, 2004**  
**Minutes**

Present: Margaret Adamek, Rachel Applegate, William Bosron, Mark Brenner (co-chair), Daniel Callison, David Ford, Jeff Grove, Ain Haas, Dolores Hoyt, Andrew Hsu, Steven Jones, Marvin Kemple, Michael Klemsz, Michael Kowolik, Joyce Mac Kinnon, Robert Osgood, Doug Perry, Martel Plummer, Sherry Queener (co-chair), Kristi Reuille, Sharon Sims, Jon Story, James Williams, Kathryn Wilson, Marianne Wokeck, Hiroki Yokota

Staff:           Monica Henry  
                  David Koerner

**Approval of the minutes - Dr. Queener**

Minutes from the May 25, 2004 meeting were approved.

**Welcome and School Updates – All**

Dr. Queener requested that each individual introduce themselves, note the school they represent, and tell of any school activity that may affect the GAC. Those below noted changes and proposals that will be forthcoming in their respective schools:

Mark Brenner, Ph.D., **Research & Sponsored Programs** – The National Research Council will be rating and ranking doctoral programs in the near future. IUPUI will be identified and recognized through Indiana University - Bloomington and Purdue University - West Lafayette.

Jeff Grove, Ph.D., **School of Law** – the Doctor of Juridical Science proposal has been approved by ICHE and is waiting for acquiescence from the American Bar Association.

David Ford, Ph.D., **School of Liberal Arts** - Three programs have been approved in the past two years that are being implemented with the benefit of a Council of Graduate Schools grant. Also, an M.A. in Political Science is awaiting approval from ICHE.

Sharon Sims, Ph.D., **School of Nursing** – The School of Nursing has a new Dean, Dean Marion Broome, Ph.D., RN, FAAN. Revisions to the Ph.D. program are on the table for today's meeting.

Andrew Hsu, Ph.D., **School of Engineering & Technology** – Dr. Hsu noted the Ph.D. in Mechanical Engineering proposal that is currently on the table and stated that additional proposals are forthcoming.

Kathryn Wilson, Ph.D., **School of Science** – Dr. Wilson noted that this would be her last semester on the GAC. There is a new Dean, Dean Carl Cowen, Ph.D., and there will be a new Associate Dean by November.

Doug Perry, Ph.D., **School of Informatics** – Dr. Perry noted that the School of Informatics is in the process of moving to the new technology building. The Ph.D. in Informatics proposal has been delayed in Bloomington.

William Bosron, Ph.D., **School of Medicine** – The School of Medicine will not have any new programs but will have modifications to existing programs.

Steve Jones, Ph.D., **Kelley School of Business** - There are two items on the agenda for today, and one or two more proposals forthcoming.

Joyce Mac Kinnon, Ph.D., **School of Health and Rehabilitation Sciences** – Dr. Mac Kinnon stated that the M.S. in Occupational Therapy has been approved by ICHE at the September meeting.

Martel Plummer, **Herron School of Art** – New Course Requests for the Masters in Fine Arts will be filtering through the Curriculum Subcommittee and then the Graduate Affairs Committee this academic year.

Daniel Callison, Ed.D., **School of Library and Information Science** – The School will be presenting additional dual degrees this academic year. Within the last two years masters students have increased from 160 to 340. Library and Information Science has also doubled tenure track faculty. Dr. Callison introduced Dr. Rachel Applegate who will be taking his place on the Graduate Affairs Committee.

Kristi Reuille, **Graduate Student Organization** – The GSO will be revising guidelines for the Educational Enhancement Grants.

Margaret Adamek, **School of Social Work** – This is the first year that the School has had international students. Social Work is also exploring the possibilities of a MSW/JD dual degree.

### **Vice Chancellor's Report – Dr. Brenner**

Dr. Brenner noted President Herbert's recommendations with regards to the Indiana University Graduate School:

- The current title of the dean should be changed to Associate Vice President for Academic Affairs (AVP) and Dean of Graduate Studies.
- The AVP and dean should report to the Senior Vice President for Academic Affairs.
- The Graduate School should not be involved in reviewing graduate curricula or graduate faculty membership. It should, however, be involved in graduate program reviews.
- The office should have as a major responsibility the graduate student organizations in Bloomington and IUPUI. It also should play a major role in mediating graduate curriculum issues among academic units and/or campuses.
- The AVP and dean should not only work with the academic deans in identifying university-wide standards and goals for graduate education, but also make recommendations to the Senior Vice President for Academic Affairs concerning proposed new graduate programs

Dr. Brenner noted that it is not clear how President Herbert's recommendations will affect IUPUI and the Graduate Affairs Committee. Dr. Queener noted that there is a difference, in that the Graduate Affairs Committee reviews proposals from the Indiana University Graduate School, the Purdue University Graduate School, and Professional Schools. IUPUI has also charged the GAC to advise campus administration of proposals, thus the GAC has a different role. Dr. Bosron asked if there would still be a "Graduate School" since the Indiana University Graduate School technically confers degrees. Dr. Queener noted that Dr. Slattery's opinion is that degrees will continue to come from a Graduate School like entity. Dr. Brenner noted that he believes the GAC will continue to operate as it currently does. Clarification is forthcoming.

#### **Associate Dean's Report – Dr. Queener**

The Board of Trustees has altered their schedule and will be reviewing programs for approval two times per academic year (October and 1 meeting during the Spring semester). This may add a little delay to the approval process.

The Enrollment Management Council has evolved from the Enrollment SWAT Team. The council is currently looking at policies and procedures in an attempt to identify barriers that prevent or hinder recruitment, retention, and graduation. Dr. Queener asked the committee to contact her regarding any unique problems that may be identified as a barrier.

#### **Purdue Dean's Report – Dr. Story**

The Inter-Campus Task Force will submit their report and recommendations to the Graduate Council this fall. The Task Force has also re-written the section in the Policies and Procedures manual that deals with non-West-Lafayette campuses.

There are several new programs on the Purdue University Graduate Council docket. The Graduate Council did not meet in September.

#### **Graduate Office Report – David Koerner**

Problems regarding Financial Aid are getting resolved and the process is improving. Awards have been posted for October. David Koerner asked the GAC to encourage their students to monitor the posting of their awards. If a problem arises departments should contact David directly so that he can begin investigating the problem. David has been asked to be the point person / graduate and professional program liaison to Financial Aid as apposed to multiple students and departments calling Financial Aid individually.

It has been the University's philosophy that if a student has both a fee remission and financial aid the University will be paid first. If fee remissions are not on accounts and the financial aid hits, the financial aid pays for their fee. David should have the Spring fee remission deadline as well as the format the Financial Aid would like them in for the November meeting. If problems arise please contact David so that he may work with Financial Aid to resolve the problem. Dr. Queener stressed that it is important that the departments be diligent in processing fee remissions in a timely fashion so problems do not arise.

#### **Committee Business**

### **Curriculum Subcommittee – Dr. Klemsz**

The Curriculum Subcommittee has worked to generate a sample syllabus in an effort to create uniformity and eliminate disparities. The sample syllabus can be found on the Curriculum Subcommittee website: <http://www.iupui.edu/~resgrad/grad/currcomm.htm>. The website also contains newly created cheating and plagiarism sample language that professors are encouraged to add to their syllabus. Dr. Queener noted that the committee is evolving to a service function by helping faculty with guidelines.

### **Program Approval – Dr. Queener**

The 2003-2004 GAC Program Approval Summary was made available to the GAC prior to the meeting.

### **MPH Environmental Epidemiology Track**

The MPH Environmental Epidemiology Track proposal along with one review was made available to the GAC prior to the meeting. This proposal was tabled until the Department of Public Health has a chance to respond to the review.

### **MPH Quantitative Epidemiology Track**

The MPH Quantitative Epidemiology Track proposal along with one review was made available to the GAC prior to the meeting. This proposal was tabled until the Department of Public Health has a chance to respond to the review.

### **M.S. in Technology**

The M.S. in Technology proposal along with two reviews were made available to the GAC prior to the meeting. Dr. Hsu noted that the MSTech program is already being implemented under an agreement between the Purdue School of Engineering and Technology, IUPUI and the School of Technology at Purdue University, West Lafayette. It is the school's intention to begin further course development and student recruitment immediately after notification of approval from the Commission for Higher Education. The first reviewer noted that the discussion under "New Courses" is vague. Dr. Hsu stated that he has revised the proposal to expand on possible new course topics based on faculty strengths. The second reviewer noted that "the case for interdisciplinarity should be made more explicitly". Dr. Hsu stated that there is not enough faculty support for each department to have their own masters degree therefore they must have one M.S. in Technology degree with several areas of concentration. Dr. Wokeck recommended using the language "multi-disciplinary" instead of "inter-disciplinary". Dr. Hsu stated that he will revise the proposal accordingly. Dr. Hsu also stated that he will collect letters of support from local corporations in an effort to make a stronger case for the need of this program; list the individual high-tech areas mentioned in the proposal; and make revisions as suggested on points 5 and 6 of the second review. Dr. Hsu also addressed the concern regarding the GRE requirement identifying specific percentiles as apposed to actual scores. Dr. Hsu would like to leave the GRE requirement as is. Dr. Queener agreed.

Dr. Perry raised the issue of potential overlap between the Computer Graphics component of this degree and the School of Informatics' New Media degree. Martel Plummer noted that there may be potential overlap with the Herron School of Art's Communication Design program. Dr. Hsu stated that he would work with each school to avoid overlap.

The hope is that the graduate population for this degree would eventually (by the five year mark) mirror that of the undergraduate population, which would equate to 250 students.

The proposal was approved with suggested revisions.

### **Evening MBA – Marketing Major**

The Marketing major proposal along with one review was made available to the GAC prior to the meeting. Dr. Jones noted that this is the 3<sup>rd</sup> and last major for the Evening MBA. Currently the Finance major is the most popular major, thus the Finance faculty are over-burdened. It is believed that the Marketing major will balance out the offerings. Student demand has been documented through the use of student surveys. The Kelley School of Business plans on hiring one faculty member to round out the elective offerings. The reviewer noted concern regarding the offering and frequency of marketing courses. Dr. Jones stated that within the last year 6 to 7 different marketing classes were offered, and that the new faculty member will create additional courses. The reviewer expressed concern over having adequate faculty for the new major. Dr. Jones noted that within the last two years two faculty members have been replaced by individuals who possess graduate expertise and thus can instruct graduate courses. The goal is to offer 5 courses on a regular basis. Students should be able to complete the degree in three years, and may begin the major during their 2<sup>nd</sup> semester of their 2<sup>nd</sup> year. The major will take two to three semesters to complete. The proposal was approved by the GAC.

### **MBA / MS Science Dual Degree**

The MBA/MS Science dual degree proposal was made available to the GAC prior to the meeting. This proposal would go through administrative approval on the West Lafayette campus. Due to the M.S. in Geology being an Indiana University Graduate School degree IU guidelines must be followed in terms of the number of credits that must remain. Dr. Queener asked the committee to approve the concept and that she would ensure that the format is acceptable for the IU Graduate Council. The GAC supported this proposal.

### **Program Information Items – Dr. Queener**

#### **Ph.D. in Nursing Science – Revisions**

The Ph.D. in Nursing Science revisions were made available to the GAC prior to the meeting. Dr. Sims stated that any course changes or new courses would be sent through the appropriate approval process. Dr. Queener stated that this proposal could serve as a guide for other programs making revisions.

#### **Ph.D. in Mechanical Engineering – West Lafayette & IUPUI Agreement**

The Ph.D. in Mechanical Engineering cooperative agreement between the School of Mechanical Engineering at Purdue University, West Lafayette and the Purdue School of Engineering and Technology, IUPUI was made available to the GAC prior to the meeting. This Ph.D. would remain a Purdue West Lafayette degree however; students would register at IUPUI, and take most of their course work here (4 courses in West Lafayette). Students would have two Advisory Committee members from West Lafayette and take their Qualitative Exam at West Lafayette. Special graduate faculty certification (S-type) for qualified individuals may be requested as appropriate for the School of Engineering and Technology – IUPUI faculty



members. Dr. Story noted that the faculty certification aspect is still being discussed. Dr. Queener stated that negotiations regarding this agreement are in till in flux.

#### **Ph.D. in Cellular & Integrative Physiology - Revisions**

The proposed revisions to the Ph.D. in Cellular & Integrative Physiology were made available to the GAC at the meeting. The School of Medicine would like to reduce the credit hours for the Ph.D. in Cellular & Integrative Physiology from 40 to 30 hours. No other fundamental changes to the degree are proposed.

#### **Pharmacology & Toxicology - Revisions**

The proposed revisions to the admissions requirements for the M.S. degrees in Pharmacology and Toxicology were made available to the GAC at the meeting. The School of Medicine would like to add the GRE to the admissions requirements for the M.S. degrees.

#### **Next meeting date**

October 26, 2004

**Meeting adjourned at 4:53 PM**

## **Proposal for a Track in Environmental Epidemiology**

Indiana University School of Medicine Department of Public Health

**Rationale:** The Department of Public Health is proposing a specialized track within the Epidemiology concentration for students admitted to the MPH Program who have an interest in environmental science in public health. This track would enable students in the Epidemiology concentration to focus their internship experience, culminating project, and coursework in epidemiology and environmental health science, and complete their degree requirements within the 43 credit hours required for the MPH degree.

**Objectives:** The track in Environmental Epidemiology will provide students with concepts and principles of the research, field, theory and practice of environmental epidemiology so that they will be able to:

1. Describe theories and measures used in population health models.
2. Describe environmental, social and biological determinants of health and disease and their political, economic and legal contexts.
3. Identify environmental agents in the home, workplace, and community; identify pathways of human exposure to biological, chemical and physical hazards; and explain how these hazards cause acute and chronic diseases in humans.
4. Apply public health sciences, including behavioral and social sciences, biostatistics, epidemiology, environmental public health, and prevention of chronic and infectious diseases and injuries.
5. Assess and communicate the degree of risk posed by exposure to environmental agents.
6. Determine appropriate use of data and statistical methods for problem identification and resolution, program planning, implementation and evaluation.
7. Interact sensitively, effectively and professionally with persons from diverse cultural, socioeconomic, educational and professional backgrounds and lifestyles.
8. Understand the strengths and weaknesses of technical and behavioral interventions to reduce environmental risks.
9. Use quantitative and qualitative data and information for assessment, program management, policy proposals or intervention strategies.

**Students:** It is anticipated that the track in Environmental Epidemiology would attract students who have an interest in environmental science in public health.

**Faculty:** The faculty advisor for the Environmental Epidemiology track will be Dr. Greg Steele, IU School of Medicine Department of Public Health.

**Academic Program:** The curriculum for the 43 credit hour track in Environmental Epidemiology is comprised of the following required courses

### **Required Courses for the 43-hour Track in Environmental Epidemiology:**

#### **First Year**

#### **Fall Semester**

PBHL H501	US Health Care: Systems, Policies and Ethical Challenges	3 cr.
PBHL H517	Fundamentals of Epidemiology	3 cr.
PBHL P501	Public Health Project Development/Program Management Seminar/Lab	1 cr.

#### **Spring Semester**

PBHL G651	Biostatistics for Public Health I	3 cr.
PBHL H500	Philosophy and Principles of Health Education	3 cr.
PBHL P502	Issues in Public Health Seminar II	1 cr.

#### **Summer Session**

PBHL H519	Environmental Science in Public Health	3 cr.
PBHL P503	Community Project	1 cr.

### **Second Year**

#### **Fall Semester**

PBHL P600	Epidemiological Research Methods	3 cr.
STAT G652	Biostatistics II	3 cr.

#### **Spring Semester**

PBHL P601	Advanced Epidemiology	3 cr.
PBHL E560	Environmental Risk Analysis	3 cr.

#### **Summer Session**

PBHL P602	Internship w/ an Environmental Component	3 cr.
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### **Third Year**

#### **Fall Semester**

PBHL E520	Environmental Toxicology	3 cr.
PBHL P606	Seminar in Epidemiology	1 cr.

#### **Spring Semester**

PBHL P704	Epidemiology Project w/an Environmental Focus	3 cr.
PBHL P650	Readings in Public Health	3 cr.

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<b>Total Credit Hours</b>	<b>43 cr.</b>
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**Timetable:** The Department of Public Health is seeking approval for the track in Environmental Epidemiology as soon as possible.

## Outline for Reviewers Comments

### Review of Proposal for ...

*Documents reviewed:* Proposal for a track in Environmental Epidemiology

*Summary:* The Department of Public Health proposes a specialized track within the Epidemiology concentration. In order to understand the proposal in the context of their current focus area in Epidemiology, curriculum and course descriptions from their website were reviewed. From that exploration it appears that they are transforming a 39 credit MPH with a focus in Epidemiology into a 43 credit MPH with a focus in Environmental Epidemiology. In so doing, they eliminate three courses (P612 Patient-Centered Outcomes Research; P609 Infectious Disease; and P610 Chronic Disease). Both P609 and P610 are elective choices students could take for their 6 elective credit hours.

They have added 3 courses: E560 Environmental Risk Analysis, E520 Environmental Toxicology and P650 Readings in Environmental Epidemiology – which appear to be not elective but mandatory. The course descriptions for these courses are not on their website, so the reviewer is uncertain if they are developed and approved. P650 is listed twice on their website, with the titles of “Historical Evolution of Epidemiology” and “Topics: Readings in Public Health”.

It appears that the proposed track would eliminate 6 elective credit hours, add the required 9 credit hours listed above in the new 3 courses – giving a net gain of 3 credit hours in the focus area.

*Recommendation:*     **Four possible recommendations**

**Accept with discussed revisions - and answered questions**

*Discussion:*

Questions:

- 1 – Is that a correct summary? The reviewer was left making assumptions without more context and rationale.
- 2 - The proposal didn't make a case for the need for this new track. Couldn't the students use the elective hours in the former Epidemiology focus and choose an environmental focus? Is it needed for a written credential on their transcript to be marketable for employment? I can't see why students don't have the flexibility to get it as it is currently described on their website.
- 3 – What is the rationale to increase from 39 to 43 credit hours?
- 4– Could they clarify the title and intent of P650?
- 5 – Do you have any data to support a market for this track?
- 6 – How would students graduating from this track differ from those who graduate from current Epidemiology track?

The proposal should use course titles that match with information on the Department website. The following courses have a discrepancy: H501, P501, G651 and P650.

A cursory understanding of environmental sciences would indicate a need for this track, so the reviewer wants to be supportive of the Department of Public Health's innovation. Further explanations and answers are needed to strengthen the proposal.

## Proposal for a Track in Quantitative Epidemiology

Indiana University School of Medicine  
Department of Public Health

**Rationale:** The Department of Public Health is proposing a specialized track within the Epidemiology concentration for students admitted to the MPH Program who have a specialized interest in advanced statistical methods. This track would enable students in the Epidemiology concentration to focus their internship, culminating project, and coursework in epidemiology and quantitative methodology, and complete their degree requirements within the 43 credit hours required for the MPH degree.

**Objectives:** The track in Quantitative Epidemiology will provide students with advanced statistical concepts and principles in public health research and practice so that they will be able to:

1. Describe theories and measures used in population health models.
2. Describe environmental, social and biological determinants of health and disease and their political, economic and legal contexts.
3. Demonstrate knowledge of statistical theory sufficient to understand and apply new techniques as presented in the statistical literature.
4. Apply public health sciences, including behavioral and social sciences, biostatistics, epidemiology, environmental public health, and prevention of chronic and infectious diseases and injuries.
5. Determine appropriate use of data and statistical methods for problem identification and resolution, program planning, implementation and evaluation.
6. Interact sensitively, effectively and professionally with persons from diverse cultural, socioeconomic, educational and professional backgrounds and lifestyles.
7. Use statistical and other software for data analysis and management.
8. Use quantitative and qualitative data and information for assessment, program management, policy proposals or intervention strategies.
9. Demonstrate ability to communicate with investigators and present results.

**Students:** It is anticipated that the track in Quantitative Epidemiology would attract MPH students who have an interest in advanced statistical methods in public health.

**Faculty:** The faculty advisor for the Quantitative Epidemiology track will be Dr. Greg Steele, IU School of Medicine Department of Public Health.

**Academic Program:** The curriculum for the 43 credit hour track in Quantitative Epidemiology is comprised of the following required courses:

### *First Year*

#### **Fall Semester**

PBHL H501	US Health Care: Systems, Policies and Ethical Challenges	3 cr.
PBHL H517	Fundamentals of Epidemiology	3 cr.

PBHL P501	Public Health Project Development/Program Management Seminar/Lab	1 cr.
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**Spring Semester**

PBHL G651	Biostatistics for Public Health I	3 cr.
PBHL H500	Philosophy and Principles of Health Education	3 cr.
PBHL P502	Issues in Public Health Seminar II	1 cr.

**Summer Session**

PBHL H519	Environmental Science in Public Health	3 cr.
PBHL P503	Community Project	1 cr.

**Second Year**

**Fall Semester**

PBHL P600	Epidemiological Research Methods	3 cr.
STAT G652	Biostatistics II	3 cr.

**Spring Semester**

PBHL P601	Advanced Epidemiology	3 cr.
STAT S523	Categorical Data Analysis	3 cr.

**Summer Session**

PBHL P602	Internship w/ an Analytic Component	3 cr.
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**Third Year**

**Fall Semester**

PBHL P606	Seminar in Epidemiology	1 cr.
STAT S512	Applied Regression Analysis	3 cr.
	or	
STAT S522	Sampling and Survey Techniques	3 cr.
	or	
STAT S536	Introduction to Survival Analysis	3 cr.

**Spring Semester**

PBHL P704	Epidemiology Project w/ an Analytic Component	3 cr.
Elective	Elective in Epidemiology or Statistics	3 cr.

<b>Total Credit Hours</b>	<hr style="width: 100px; display: inline-block; vertical-align: middle;"/> 43 cr.
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**Timetable:** The Department of Public Health is seeking approval for the track in Quantitative Epidemiology as soon as possible.

## **Review of Proposal Submitted to the IUPUI Graduate Affairs Committee (August 12, 2004)**

**Proposal:** New MPH track of Quantitative Epidemiology in the Department of Public Health

**Summary:** The Department of Public Health in the School of Medicine is proposing a specialized track within the Epidemiology concentration for students admitted to the MPH program who have an interest in advanced statistics. This involves making four statistics courses offered by the Mathematics Department in the School of Science available to the Public Health students along with required current courses in the Public Health curriculum.

**Recommendation:** Approval pending satisfactory response from the comments below.

**Comments:** Student in this new track would take Biostatistics G651 and G652 as part of the standard curriculum for the MPH. These two courses are taught by the Biostatistics Division in the Department of Medicine in the School of Medicine and are already offered as part of the Public Health curriculum. However, the curriculum of the new track adds four statistics courses offered by the Mathematics Department of the School of Science. There is no indication in the proposal that the Mathematics Department has been contacted about this new track. The four new courses are listed under Mathematics' course descriptions and they all have specific prerequisites. Has the Mathematics Department been contacted to determine if the four courses are still offered and can accommodate additional students from Public Health? Have the course instructors of these four courses reviewed the proposal and indicated that completion of the two Biostatistics courses (G651 and G652) can satisfy the prerequisites for their courses?



**THE MASTER OF SCIENCE IN TECHNOLOGY**

**OFFERED BY THE PURDUE SCHOOL OF ENGINEERING AND TECHNOLOGY  
AT INDIANA UNIVERSITY PURDUE UNIVERSITY INDIANAPOLIS**

**INSTITUTION:** Indiana University Purdue University Indianapolis

**COLLEGE:** Purdue School of Engineering and Technology

**DEGREE PROGRAM TITLE:** Master of Science in Technology

**DEGREE CODE:**

**SUGGESTED CIP CODE:**

**LOCATION OF PROGRAM / CAMPUS CODE:** Indianapolis /

**PROJECTED DATE OF IMPLEMENTATION:** 2005

**DATE APPROVED BY INSTITUTIONAL BOARD OF TRUSTEES:**

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H. Öner Yurtseven, Dean, Purdue School  
of Engineering and Technology, IUPUI

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Date

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Date Received by Commission for Higher Education

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Commission Action

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(Date)

**THE MASTER OF SCIENCE IN TECHNOLOGY  
OFFERED BY THE PURDUE SCHOOL OF ENGINEERING AND TECHNOLOGY  
AT INDIANA UNIVERSITY PURDUE UNIVERSITY INDIANAPOLIS**

**A. ABSTRACT**

**Objectives**

As the fields of technology and engineering rapidly evolve, workers in the fields require a strong educational background as well as skills in life long learning. A B.S. degree is often no longer sufficient in today's competitive global economy. The proposed M.S. in technology program would prepare students for the expanding opportunities in the new economy which often require advanced degree studies.

**Clientele to be Served**

This program is primarily designed for students holding a B.S. degree in a technology discipline. The Purdue School of Engineering and Technology has one of the largest technology programs in the U.S., and is the largest degree granting school at IUPUI. Most of the technology graduates join local engineering firms and contribute to the Indiana economy. In addition to IUPUI technology graduates, there are a large number of Purdue University, West Lafayette technology graduates who work in the central Indiana area. The new M.S. program will serve both the graduates who are currently working in central Indiana, as well as new graduates who wish to strengthen their educational background immediately after they receive their B.S. degrees. Discussions with industry leaders in and around Indianapolis have confirmed the merits of this program.

**Curriculum**

Total Credit Hours Required: 33 semester hours for the Master of Science in Technology (MSTech).

Credit Hours for Required Courses: 9 credit hours selected from a list of core courses is required for the MSTech degree.

Additional Credit Hours: In addition to those courses referred above, students will take courses required by the particular department of technology in which the student is enrolled and by the student's advisory committee.

Prerequisites: To be admitted to the MSTech program, a student has to:

1. have completed or will be completing a bachelor's degree from an accredited technology or engineering program.
2. obtained an undergraduate cumulative GPA of 3.0 or higher, on a 4.0 scale.
3. have taken the GRE test and obtained scores above the 50th percentile, for unconditional admission, or obtained scores above the 30th percentile for conditional admission.

Internships or Practice: None required for the Master of Science in Technology.

Unique and Innovative Features: This is an interdisciplinary program developed by the Purdue School of Engineering and Technology on the IUPUI campus. The program will be available to technology graduates from all the various technology disciplines. As the only graduate technology program in greater Indianapolis area, it will provide a unique opportunity for regional technology graduates to further their education, an opportunity that hitherto does not exist, and an opportunity that is sorely needed considering that most of IUPUI's technology graduates and many of the Purdue West Lafayette technology graduates live and work in the greater Indianapolis area, and that many of them urgently need to better their education to keep up with the increasingly high-tech and increasingly competitive global job market.

### **Employment Possibilities**

This program will prepare students for industrial careers in the new high-tech areas as well as in the manufacturing field. Graduates can also pursue teaching careers in technology. In addition to the numerous information technology related companies in the area, major local companies such as Rolls Royce, Delphi, Eli Lilly, Allison Transmission, Delco and Raytheon can all benefit from the better educated employee pool provided by the proposed MS Technology program.

## **B. PROGRAM DESCRIPTION**

### **1. Description and Objectives**

This is a proposal to award the degree of Master of Science in Technology (MSTech) at the Purdue School of Engineering and Technology on the IUPUI campus. The proposed program has been developed by an IUPUI faculty committee in consultation with academic units at the West Lafayette campus of Purdue University and the IUPUI campus in Indianapolis. In particular, help and guidance from the School of Technology at Purdue University, West Lafayette, were considered one of the main driving forces during the program development. The participating units are the departments of Computer and Information Technology, Construction Technology, Electrical and Computer Engineering Technology, Mechanical Engineering Technology, and Organizational Leadership and Supervision, all from the Purdue School of Engineering and Technology on the IUPUI campus.

The degrees will be awarded by the Purdue University Graduate School through the Purdue School of Engineering and Technology on the IUPUI campus. The Purdue School of Engineering and Technology is currently authorized to award the Master's degrees in all its engineering departments. The proposed MSTech program will allow students with technology or engineering BS degrees to take full advantage of the unique educational opportunities and resources available at IUPUI.

The MSTech degree will serve as a terminal engineering degree for those students not wishing to pursue a research career in technology as well as an intermediate degree for those wishing to go on to the Ph.D. in Technology (which is offered at Purdue University, West Lafayette). Students receiving the MSTech degree will have a good general understanding of knowledge of important technology subject areas which are of direct importance to local industry. The program is particularly suited for technology graduates who are working in local industry and wish to pursue a technical managerial career, which was, in general, less accessible to technology BS holders.

It is important to point out that the proposed new program is based on a curriculum, research, and faculty infrastructure already in place, and that no new faculty positions or new facilities are being requested in this proposal. It is also important to recognize that the proposed program is the University's response to a real industrial need in the communities that IUPUI serves.

### **2. Admission Requirements, Student Clientele, and Financial Support**

#### **a. Admission**

All applications to the Master's program will be reviewed by an IUPUI graduate engineering technology faculty committee and recommendations for admission will be sent to Purdue Graduate School. The IUPUI engineering and technology faculty may provide the financial support of the students admitted for their residency in Indianapolis, and for international students (if any), the legal paperwork for visas (I-20 Form) will be prepared at IUPUI. Requirements for admission are:

1. B.S. from an accredited technology or engineering program.
2. Undergraduate GPA of 3.0 or greater, based on a maximum of 4.0.
3. GRE score greater than the 50<sup>th</sup> percentile for unconditional admission.
4. GRE score greater than the 30<sup>th</sup> percentile for conditional admission.

## **b. Student Clientele**

This program is primarily designed for students holding a B.S. degree in a technology discipline. The Purdue School of Engineering and Technology, IUPUI has one of the largest technology programs in the US, and is the largest degree granting school at IUPUI. Most of the technology graduates join the local engineering firms and contribute to Indiana economy. In addition to IUPUI technology graduates, there are a large number of Purdue University, West Lafayette technology graduates who work in the central Indiana area. The new M.S. program will serve both the graduates who are currently working in central Indiana, as well as new graduates who wish to strengthen their educational background immediately after they receive their B.S. degree.

## **3. Proposed Curriculum**

### **a. Curriculum Requirements**

The non-thesis directed project Master's degree will consist of 33 credit hours and typically is completed in 4 semesters. The program consists of 9 credit hours of required core courses, 21 credit hours of a secondary area, and 3 credit hours of a directed project. Unless otherwise specified in this document, the proposed program will operate consistent with and according to the policies and practices established by the Purdue University School of Technology's Graduate Education Committee. Each Master's degree student will be guided by a graduate committee consisting of a minimum of three appropriately certified graduate faculty. The Chair of each Master's degree student committee will be an appropriately certified engineering technology graduate faculty member at IUPUI. Special graduate faculty certification (S-type) for qualified individuals may be requested as appropriate.

### **b. Courses**

(1) Required core courses: A student's plan of study should include 9 credit hours from the following list of core courses:

1. TECH 507 Measurement and Evaluation in Industry and Technology  
or STAT 501, STAT 511, or PSYC 600.
2. TECH 508 Quality and Productivity in Industry and Technology
3. TECH 646 Analysis of Research in Industry and Technology

(2) At least 6 of the 21 credit hours of secondary area courses should be graduate level courses offered by technology departments from the course list below. The remaining 15 credit hours can be graduate courses from either the technology departments or from engineering, science, or mathematics departments. The proposed technology courses and available engineering and science course are listed below.

### ***List of Technology Courses:***

### Computer Graphics - Mechanical Engineering Technology

CGT 511 The Development of Graphics in Technology  
CGT 512 Human Factors of Computer Interface Design  
CGT 513 Interactive Multimedia Development and Research  
CGT 514 Product Lifecycle Management  
CGT 519 Projects in Graphics

### Computer and Information Technology

CPT 550 Organizational Impact of Information Technology  
CPT 551 Information Technology Economics  
CPT 552 Information Technology Project Management  
CPT 554 Management of Information Technology Resources  
CPT 555 Advanced Network Security

### Electrical and Computer Engineering Technology

ECET 525 Applications in Forensic Engineering Technology  
ECET 581 Workshop in Computer Communications  
ECET 5xx Microcomputer Applications in Technology  
ECET 5xx Telecommunications in Industry and Technology

### Mechanical Engineering Technology

MET 530 Facilities Engineering Technology  
MET 535 Optimization of Metalcasting Design  
MET 546 Industrial Applications of Computer Integrated Manufacturing

### Organizational Leadership and Supervision

OLS 567 Supervised Field Practice in Industrial Training  
OLS 574 Managerial Training and Development  
OLS 576 Advanced Topics in Human Resource Management  
OLS 577 Organization and Administration of Training and Development  
OLS 578 Leadership in International Human Resources  
OLS 579 Emerging World-class Leadership Strategies  
OLS 580 Interpersonal Skills for Leaders  
OLS 582 Leadership and Organizational Change  
OLS 590 Individual Research Problems in Supervision and Personnel

### General Technology Courses

TECH 507 Measurement and Evaluation in Industry and Technology  
TECH 508 Quality and Productivity in Industry and Technology  
TECH 527 Technology from a Global Perspective  
TECH 598 Directed M.S. Project

***List of Engineering and Mathematics Courses***

Biomedical Engineering:

BME 601 Principles of Biomedical Engineering I  
BME 602 Principles of Biomedical Engineering II  
BME 595A Biomedical Instrumentation  
BME 595B Biomolecular Engineering  
BME 595C Skeletal Biomechanics  
BME 595D Sensors and Implantable Devices  
BME 595E Medical Imaging  
BME 595F Experimental and Computational Neuroscience  
BME 595G Biosignal Analysis  
BME 595H Experimental Methods in Biomedical Engineering  
BME 595I Bioelectric Phenomena  
BME 695 Advanced Biomolecular Engineering  
BME 696 Advanced Biomedical Engineering Topics  
BME 697 Directed Readings in Biomedical Engineering

Electrical and Computer Engineering:

ECE 536 Introduction to Computational Intelligence  
ECE 537 Digital Image Processing I  
ECE 538 Digital Signal Processing I  
ECE 544 Digital Communications  
ECE 547 Introduction to Computer Communication Networks  
ECE 559 MOS VLSI Design  
ECE 565 Computer Architecture  
ECE 569 Introduction to Robotic Systems  
ECE 570 Artificial Intelligence  
ECE 574 Software Engineering Methodology  
ECE 580 Optimization Methods for Systems and Control  
ECE 595 Selected Topics in Electrical Engineering  
ECE 600 Random Variables and Signals  
ECE 602 Lumped System Theory  
ECE 608 Computational Models and Methods  
ECE 629 Introduction to Neural Networks  
ECE 696 Advanced Electrical Engineering Projects

Mechanical Engineering:

ME 500 Thermodynamics  
ME 503 Biomechanics of the Musculoskeletal System  
ME 505 Heat and Mass Transfer  
ME 506 Two-Phase Flow and Heat Transfer



ME 509 Intermediate Fluid Mechanics  
 ME 510 Gas Dynamics  
 ME 525 Combustion  
 ME 551 Finite Element Analysis  
 ME 552 Advanced Applications of Finite Element Methods  
 ME 563 Mechanical Vibrations  
 ME 569 Mechanical Behavior of Materials  
 ME 581 Numerical Methods in Mechanical Engineering  
 ME 582 Thermal Stress Analysis  
 ME 597 Selected Topics in Mechanical Engineering  
 ME 614 Computational Fluid Dynamics  
 ME 697 Mechanical Engineering Projects

Mathematics and Math-related Courses:

MATH 537 Applied mathematics for Scientists and Engineers I  
 MATH 528 Advanced mathematics for Engineering and Physics II  
 MATH 510 Vector Calculus  
 MATH 511 Linear Algebra and Applications  
 MATH 523 Introduction to Partial Differential Equations  
 MATH 578 Mathematical Modeling of Physical Systems

CSCI 512 Numerical Methods for Engineers and Scientists  
 CSCI 514 Numerical Analysis  
 CSCI 515 Numerical Analysis of Linear Systems  
 CSCI 520 Computational Methods in Analysis  
 CSCI 614 Numerical Solution of Ordinary Differential Equations  
 CSCI 615 Numerical Solution of Partial Differential Equations

PHYS 550 Introduction to Quantum Mechanics  
 PHYS 600 Methods of Theoretical Physics I  
 PHYS 601 Methods of Theoretical Physics II

STAT 528 Introduction to Mathematical Statistics  
 STAT 529 Applied Decision Theory and Bayesian Statistics  
 STAT 532 (MA 532) Elements of Stochastic Processes  
 STAT 538 (MA 538) Probability Theory I  
 STAT 539 (MA 539) Probability Theory II  
 STAT 553 Theory of Linear Models and Experimental Designs  
 STAT 554 Multivariate Test Statistics  
 STAT 555 Non-Parametric Statistics  
 STAT 576 Introduction to Statistical Decision Theorem  
 STAT 638 (MA 638) Stochastic Processes I  
 STAT 639 (MA 639) Stochastic Processes II  
 STAT 657 Theory of Tests, Estimation and Decisions I  
 STAT 658 Theory of Tests, Estimation and Decisions II  
 STAT 667 Measure-Theoretic Statistics: Decision Theoretic Classical

#### **a. Sample Curricula**

Each student's plan of study will be individualized according to the student's needs and the Advisory Committee recommendations. Shown below are sample plans of study for the MSTech taken by a student with an Information Technology background.

#### **SAMPLE PLANS OF STUDY**

##### **IUPUI TECHNOLOGY GRADUATE PLAN OF STUDY**

<u>Course No.</u>	<u>Subject</u>
TECH 507	Measurement and Evaluation
TECH 508	Quality and Productivity in Ind/Tech
TECH 527	Technology from a Global Perspective
CPT 551	Information Technology Economics
CPT 554	Management of Information Tech
CGT 512	Human Factors of Computer Interface Design
ECET 581	Workshop in Computer Communication
OLS 574	Managerial Training & Development
OLS 576	Adv Topics in HR Management
TECH 598	Directed M.S. Project
TECH 646	Analysis of Research in Industry/Tech
<b>3 credits each, total 33 credits.</b>	

#### **b. New Courses**

A number of 500 level courses will be developed in areas with faculty strengths in the technology departments, which include computer graphics, computer network and communications, leadership development, organizational and individual ethics, etc. The standard process for new course development is to offer them as an experimental course (TECH 587) for two or three semesters before applying for a permanent number. Experimental courses do not require system wide approval.

#### **c. Courses at Other Institutions**

The MSTech program at IUPUI will be a free standing program. It is recognized that the proposed technology programs from the West Lafayette campus will increase opportunities for students on both campuses. Efforts will be made to co-develop courses taught on both campuses and to coordinate scheduling so that faculty resources and student options can be maximized.

### **4. Describe Form of Recognition**

#### **a. Type of Degree**

Master of Science in Technology, conferred by Purdue University.

## **b. Institution's CIP Code**

Purdue University's suggested CIP code for the graduate program in technology is \_\_\_\_\_.

## **c. Diploma Information**

The degrees will read as follows: Master of Science in Technology Awarded for Studies at Indianapolis.

## **5. Program Faculty and Administrators**

### **a. List Current Administration and Faculty**

Dr. Maurice Bluestein, Professor of Mechanical Engineering Technology, is the Acting Director of Technology Graduate Program. He will coordinate the administrative aspects of the IUPUI program among the various departments on the IUPUI campus. A Graduate Education Committee has been established which consists of faculty members of the technology departments at IUPUI, and is chaired by Dr. Bluestein.

The Graduate Education Committee will be the focal point for the program and will take the lead in developing graduate courses and fostering collaborative research efforts among the participating departments.

Following is a list of faculty who will participate in the MSTech program. They all have regular appointments. Accompanying this document is a compilation of the Curricula Vitae of these faculty.

Maurice Bluestein (Ph.D., 1967, Northwestern University) Professor of Mechanical Engineering Technology. Thermodynamics, fluid mechanics, instrumentation.

William Lin (Ph.D. in Electrical Engineering, 1987, The Pennsylvania State University) Associate Professor of Electrical and Computer Engineering Technology. Computer networking and communications, optical signal and image processing.

Richard Pfile (M.S.E., Computer, Information and Control Engineering, 1980, University of Michigan) Professor of Electrical and Computer Engineering Technology. Computer networking and communications, micro-processor and controller, embedded systems, software engineering.

Eugenia Fernandez (Ph.D. 1988, Purdue University) Associate Professor of Computer and Information Technology. Programming, assessment, IT pedagogy.

Thomas I.M. Ho (Ph.D., 1974, Purdue University) Professor and Chairman of Computer and Information Technology. Information technology education, distance education, electronic commerce

Mark Bannatyne (Ph.D., 1995, Purdue University) Chairman of Mechanical Engineering Technology and Associate Professor of Computer Graphics Technology. Problems faced by emerging nations in adapting technological solutions within education and industry, technology's impact in society, the

historical aspects of social change due to technology, and computer education courses in Eastern European nations.

Cliff Goodwin (Ed.D., 1997, Indiana University) Chairman and Associate Professor of Organizational Leadership and Supervision. Training needs analysis, design and facilitation for technical and leadership skill development, change, strategic planning, and organizational effectiveness.

Stephen Hundley (Ph.D., 1998, American University) Associate Professor of Organizational Leadership and Supervision. Leadership development; human resource management; training and development; organizational research and effectiveness.

Charles Feldhaus (Ed.D., 1999, University of Louisville) Assistant Professor of Organizational Leadership and Supervision. Organizational and individual ethics; distance learning/teaching; organizational, program and portfolio assessment; secondary and post-secondary articulation agreements; k-16 educational policy and issues.

**b. New Faculty Positions Required:**

No new faculty position is being requested in this proposal.

**6. Description of Learning Resources**

**a. Current Resources:** The library resources at IUPUI are adequate for the MSTech Program. The collection of books and research journals at the Main IUPUI Library cover a broad spectrum in the field of technology. As a result, very little additional library resources will be required by this program.

The proposed program will make use of existing classrooms on campus. Program faculty have office space in their home departments. Similarly, graduate students will have office space in their home departments, or in the research laboratories in their home departments.

There are several core facilities available to the technology faculty at IUPUI. These laboratories are well-equipped and staffed.

Laboratories and Facilities:

The Department of Electrical and Computer Engineering Technology has seven well-equipped laboratories including Biomedical Electronics, Cisco Networking, Computer-aided Electronics, Electronics and Motors, Analog Electronics, Microprocessors, and Controls and PLCs. All laboratory rooms are equipped with computers at every laboratory station. The laboratories are networked on a school-wide computer network that has general and application-specific software.

The Department of Mechanical Engineering Technology has laboratories with a strong emphasis on multimedia applications appropriate to applied information technology. The most modern computers and programs are available for student usage. An Instrumentation laboratory includes process control equipment, feedback control, and mechanical measurements using computerized work stations. Additional laboratories include Computer Graphics and Digital Prototyping, Machine Tools, Advanced

Manufacturing, Quality Control, Hot Metals, and the Energy Laboratory which houses the School's electric race car program.

The Department of Computer and Information Technology has networking laboratories for the installation and configuration of operating systems, network configuration training, and training in Cisco systems. Included are multi-operating system computers, HP switches, and Cisco series routers. There is also a security laboratory with an emulator, routers, and VPN equipment.

The Department of Construction Technology has testing laboratories for Soils, Asphalt, Structures and Materials, as well as laboratories for Surveying, Interior Design, Computers and Manual Drafting.

The Computer Network Center of the School provides instructional and research facilities for the School. It supports UNIX, Win2000 and Win2003 servers and their applications. CNC supports over 700 PC's running Win200 and XP. The 24/7 facility provides consultation, hardware service and oversight of all databases.

## **6. Needed Resources**

No new resource is being requested in this proposal.

## **7. Program Strengths**

### **a. Special Features**

The technology program at the Purdue School of Engineering and Technology, IUPUI is a nationally recognized program and is among the largest technology programs in terms of student enrollment. It has been recognized as a program with among the highest ratios of women and minorities. It is the largest on the IUPUI campus in terms of BS degree students. Its graduates are among employees of all the major Indiana engineering firms. Its mission is to produce graduates who have a solid foundation in technology coupled with a realistic understanding of its application to industrial processes. The new graduate degree program will give the technology graduates a vehicle to pursue their need for lifetime learning. A graduate degree will also allow the graduates to better their chances at career advancement, which becomes increasingly important in an increasingly more competitive world economy.

### **a. Anticipated Arrangements**

There are no other arrangements than the many outlined in this application.

## **C. PROGRAM RATIONALE**

The field of technology has been transformed by the development and wide application of computers from a traditional manufacturing field to a information based high-tech field. Technology education has also been transformed accordingly, from teaching mainly traditional fabrication techniques to teaching information based knowledge system. With the advance of technology, and with the development of a new global economy, there is an increasing need to more advanced education for technology students. A traditional BS degree in technology often left the graduates uncompetitive in a increasingly selective job market. Many new technology graduates as well as many graduates who have worked in industry for many years feel the need for further education. As a matter of fact, the Purdue School of Engineering and Technology, IUPUI often receives inquiries on the possibility of graduate studies in the field of technology from our local customers. The present proposed program is the School's response to this keenly felt need from the community that it serves. Additional benefits of requested Master of Science in Technology degree program at the School of Engineering and Technology, IUPUI are that it will:

- provide opportunities for graduates of current IUPUI technology programs to remain in Indiana, develop advanced credentials for further graduate study, and obtain advanced positions in industry;
- create opportunities for engineering technology faculty (equivalent to those enjoyed by faculty from a graduate degree granting units such as Engineering, Medicine, Dentistry, Nursing, and Science at IUPUI) for participation in research and research collaboration;
- improve the ability of the School to recruit and retain faculty members with the requisite credentials and skill sets to compete for funding and practice enhancing projects;
- advance the careers of engineering technology faculty more effectively as they get ready for promotion and tenure at IUPUI;
- afford greater visibility of the Purdue School of Engineering and Technology, IUPUI in the field of information technology;
- position the IUPUI School of Engineering and Technology to increase its service to Indianapolis area business and industrial community members who wish to augment their skills in computer applications;
- improve the ability of IUPUI to attract research funding from state and private sources.

### **1. Institutional Factors**

#### **a. Compatibility with IUPUI Mission**

The Indiana Commission for Higher Education has designated IUPUI as one of the state universities to provide and expand their Masters degree programs in a document titled "Indiana's Framework for Policy and Planning Development in Higher Education", published on November 14, 2003, and the

proposed program is consistent with this guideline. IUPUI is the most comprehensive university in the state of Indiana, with 18 degree-granting schools. IUPUI is rapidly becoming one of the nation's best urban universities. The proposed program complements existing professional programs in fulfilling the campus' mission. With a MSTech program in Indianapolis, the major industrial/commercial center of Indiana, the state can better take full advantage of the partnership between business and education.

**b. Planning Process**

The School of Engineering and Technology, IUPUI reached an understanding at the end of 2003 with the School of Technology at Purdue University, West Lafayette to have limited authority to offer graduate courses on the IUPUI campus. A formal agreement has been signed. This program is being implemented at IUPUI, and course offerings will begin in the fall, 2004.

Since the proposed program represents an expansion and extension of existing activity, there has been no need to meet a specific deadline. The program can be implemented as soon as approval is received. It is hoped this can occur no later than the fall, 2005.

**c. Impact on Other Programs at IUPUI**

No significant impact on other programs is anticipated. Some modest enlargement of the number of graduate students can be expected.

**d. Full Utilization of Existing Resources**

As has been noted, no new resources will be needed. Those now being utilized by present students studying in technology areas will also be used by new students.

**2. Student Demand**

The initial year enrollment is expected to be 6 students which is based on inquiries we have received during the past year. The growth in the number to 20 students was projected on the fact that advertisement of the program would attract more students. Also, the size of programs in our region indicates the feasibility of our program growing to this level.

**3. Transferability**

The transfer of graduate credit among various other institutions is a highly variable process, but no problems are anticipated for students transferring to other technology MS programs. Each institution has its own guidelines relating to the transfer of graduate credit and residency requirements. Within the state of Indiana we do not expect any complications for transferring credit as most of the campuses that offer technology MS programs are within the Purdue University system.

**4. Access to Graduate and Professional Programs**

Not Applicable.

## **5. Demand and Employment Factors**

Indiana employs most of the IUPUI technology graduates and a major portion of technology graduates from other Purdue campuses. The larger companies include Delphi, Rolls Royce, Raytheon, and Eli Lilly, which have total sales exceeding 5.5 billion dollars and employ over 30,000. Numerous smaller specialty companies have Indiana operations. The Purdue technology programs of all campuses provided graduates for these industries. The MSTech graduates will provide the manpower and expertise needed in such companies to keep them competitive in the 21st Century. Current technology trends in industry indicate that more graduates with advanced degrees will be needed in the future. Students are sensing this demand, as indicated by a increased number of inquiries during the last 3 years.

## **6. Regional, State, and National Factors**

### **a. Comparable Programs**

In Indiana, graduate technology programs have been in the past only offered at Purdue University's West Lafayette campus, and there is no other graduate technology programs in the greater Indianapolis area. In the nation, technology programs traditionally concentrate on undergraduate education, and a cursory search on the internet turned up very few major universities that offer graduate degrees in technology. The proposed program therefore is fairly unique.

### **b. External Agencies**

Graduate programs in technology are typically not licensed or accredited. Most of the undergraduate technology programs on the West Lafayette and Indianapolis campuses are fully accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET). Graduate program quality is assured by the quality of faculty involved, the high admission and graduation standards, and the administrative oversight provided by the Purdue School of Engineering and Technology, IUPUI, Purdue University School of Technology, West Lafayette, and the Purdue University Graduate School.



#### **D. PROGRAM IMPLEMENTATION AND EVALUATION**

As noted above, the MSTech program is already being implemented under an agreement between the Purdue School of Engineering and Technology, IUPUI and the School of Technology at Purdue University, West Lafayette. It is our intention to begin further course development and student recruitment immediately after notification of approval from the Commission for Higher Education.

Advertising will be done through direct mailings to regional technology programs, by visits to local industry, on the World Wide Web via the Internet. Of particular interest to the IUPUI program will be current IUPUI technology students and Purdue (both IUPUI and West Lafayette) alumni who are currently working in the Indianapolis area.

Program evaluation will be based on meeting the initial objectives of educating students for careers in technology. Close ties with local companies will be strengthened by forming a Technology Graduate Subcommittee of the Industrial Advisory Board. Meetings will be held on a regular basis, e.g., semiannually, to obtain valuable feedback for program assessment. The graduates themselves will eventually form a resource for the program and several years after program initiation it is expected that an Alumni Advisory Board will be formed to obtain different perspective on program evaluation. Tracking the graduates to determine their current job descriptions will allow a more quantitative measure of program success. In addition, some advisory board members from academia will be sought to provide feedback from the academic community.

Besides market place success which the above committees will tend to emphasize, a number of other traditional measures of academic success will be maintained. These include external funding, publications and citations, and faculty standing in professional societies.

## **E. TABULAR INFORMATION**

### **1. Table 1 Enrollment and Completion Data**

### **2. Tables 2A and 2B Cost and Revenue Data**

### **3. New Program Proposal Summary**

## **Review of Proposal for a Master of Science in Technology**

*Documents reviewed:* Degree Proposal

*Summary:* The proposed degree program appears to be well justified. A strong rationale is given for the program particularly with respect to the central Indiana area. Because of the broad nature of the program, one can expect a reasonable student enrollment in the program over time. The curriculum outlined in the proposal is sound. No significant new expenses are projected and appropriate faculty are available.

*Recommendation:* **Accept without revision**

*Discussion:* This existence of this program would appear to be a positive development for potential students, local industry, and the University. It should enhance career opportunities for the faculty and increase the visibility of the institution. The program should also increase career opportunities for those who enroll. The interdisciplinary nature of the program is a strong point.

One question, the discussion under “New Courses” is vague. The proposal notes that new graduate courses in technology will be developed, but gives no information as to what those courses might be. Some indication of the nature of those courses would be useful.

## REVIEW – The Master of Science in Technology Offered by the Purdue School of Engineering and Technology at Indiana University Purdue University Indianapolis

### Recommend after revision

*Summary and Note:* This is a request for a new interdisciplinary Purdue Masters Degree program, the M.S. in Technology (MSTech). The IUPUI School of Engineering and Technology is requesting approval from the Indiana Commission for Higher Education to offer a new masters level program in Indianapolis, which would be an autonomous Purdue degree granting program. In 2003, the IUPUI School of Engineering and Technology signed a formal agreement with the Purdue School of Technology at West Lafayette for limited authority to offer graduate courses in Indianapolis. This program however, is a request for an ICHE-approved program by the IUPUI School. It is useful to point out the primary differences between graduate programs offered as “limited graduate study” programs and those that are ICHE approved programs, which are pertinent to this document, and which are that the IUPUI program may admit students without permission or intervention of the West Lafayette steward department and that the Advisory and Final Committees may be comprised totally of IUPUI faculty. Other autonomous functions are allowed by agreement between the steward department and the IUPUI department for ICHE sanctioned programs.

*Discussion:* From an academic point of view this reviewer does not find any reason this program should not be approved. The courses a student must take are in place, appropriate and qualified faculty exist to mentor students and teach courses, and the program will be administered by personnel within the school already familiar with graduate programming and Purdue graduate school procedures. Indications are that the program fills a need.

The flaws in this proposal stem primarily from procedures that are specified for program management and from information supplied for the ICHE and Trustees that is meant to convince these two groups that the program is unique, necessary and interdisciplinary.

1. **I would not characterize this program as interdisciplinary** since all the areas in which the student will study are fairly closely related, i.e., computer science and computer engineering technology. There are not enough courses in leadership, forensics, human resources, or productivity in industry, which a student will have time to specialize in, that would satisfy sufficiently different disciplines intersecting in truly new ways. At West Lafayette, the degree in Industrial Technology, which is not advertised as “interdisciplinary” looks like a very similar degree. This is probably not an important problem unless the authors think that being interdisciplinary is an important selling point. If it is then **the case for interdisciplinarity should be made more explicitly.**
2. **A stronger case could be made for the need for this program** in this geographic area and for the fact that there may be a large number of engineering graduates working here who would benefit from this program. How many E&T graduates are employed by the various companies mentioned in the proposal? How many total employees out of the total would they estimate might be interested in this degree? **Letters of support** for the need for such a program from some of the companies listed would be helpful as well. The proposal mentions the “numerous” companies in the area and the “large” number of

Purdue graduates in this area that constitute the pool of clients for the program several times. These words are too imprecise.

3. “**New high-tech areas**” are mentioned as being excellent employment opportunities for graduates from this program. These areas should be explicitly identified since they vary for every discipline.
4. I don’t understand **the way GRE scores are specified**, as needing to be “greater than the 50<sup>th</sup> percentile for unconditional admission”, etc. This prompted me to read the guidelines published by the GRE to find out what I missed. I found a chart describing the percentage of students getting various scores for verbal and quantitative. It would seem easier to specify the scores themselves since we normally don’t see this chart and students probably would not know about it. Or have I missed something?
5. Under admissions, the procedure is that all applications to the program will be reviewed by the steward department at WL. However, for an ICHE program this is not required. It is not in the realm of agreement, it is not required and should not be done. The Graduate Committee at IUPUI should admit the students and send the paperwork directly to the Purdue Graduate School as specified in the Policies and Procedures Manual for Administering Graduate Programs for Purdue Graduate Programs, Section XI. If the Graduate Committee here is ready to administer this program they should insist that they need not depend on the steward department and must directly admit their students without its review.
6. In the section under Curriculum Requirements this program specifies that one member of the student’s graduate committee **must** be from the steward department. Again, Purdue Graduate School Guidelines do not require this for an ICHE sanctioned program and the wording should be changed specifying that such a member **may** be added at the discretion of the interested parties.

If changes recommended in 1-4 are made I feel they may strengthen the proposal and perhaps ease its way through the ICHE, but I would not insist on them. I do not recommend acceptance of this proposal without changing the procedures as noted in 5 and 6 as the procedures referred to there do not conform with normal procedures for similar programs on this campus (all masters degrees in Science for example) or with the Policies and Procedures established by and agreed to by the Purdue Graduate School.

## **Proposal for new major in MBA program – Kelley School of Business**

I. **School:** Kelley School of Business **Department:** Evening MBA Program

II. **Proposed Major:** Marketing

III. **Related Degree Program:** Evening MBA Program

IV. **Projected Date of Implementation:** Fall 2004

V. **List the major objectives of the proposed major and define its chief features:**

A. To prepare Kelley School of Business graduate students to understand the role of marketing in the successful management of business organizations.

B. To help students develop skills that will allow them to be successful marketing managers.

VI. **Rationale:**

Marketing is one of the essential functions of business management. At its most strategic level, marketing involves managing the relationship between a firm and its customers, and is at the core of the firm's value-creation activities. An in-depth understanding of marketing is necessary for those who seek to be corporate marketing managers or brand managers, as well as those who want to become entrepreneurs or senior managers. For these reasons, marketing is generally one of the most popular concentrations in MBA programs around the country (typically, it is the second most popular MBA major after finance.)

VII. **Describe the student population to be served and the market to be targeted:**

Business professionals working in the greater Indianapolis area with an interest in marketing and related disciplines (e.g., market research, sales management, advertising, brand management.).

VIII. **How does this major complement the departmental and campus missions?**

The evening MBA program at the Kelly School of Business-Indianapolis (KSBI) seeks to help students advance their careers with their current employers within central Indiana, and (in some cases) to help students re-launch their careers through use of Graduate Career Services. The addition of a marketing major will help the KSBI evening MBA program fulfill both of those missions. As the marketing function grows in importance among area firms, our graduates are increasing being asked to move into marketing positions. In addition, a large percentage of the career opportunities offered through Graduate Career Services specifically call for marketing majors. Therefore the addition of a marketing major enhances the core missions of the KSBI evening MBA program.

The KSBI MBA program currently has joint degree programs with several schools on the IUPUI campus (including Medicine, SPEA and Law). The addition of a marketing major should further enhance the value of the KSBI MBA degree for these joint program students.

**IX. List the sources of any resources required to implement the proposed program.**

Courses required for this major will be taught by existing graduate faculty members and a new faculty member to be hired. The newly-hired faculty member is expected to begin work at Kelley School of Business Indianapolis in Fall 2005 pending a successful search.

**X. Describe any innovative features of the program (e.g. involvement with local or regional agencies, offices, etc., cooperative efforts with other institutions, etc.).**

The core marketing course involves the use of a sophisticated marketing simulation game, in which teams of students compete in two different industries. Other courses (e.g., M503 Marketing Research) require students to conduct "live" projects with area firms (often the students' employers).

**XI. Major student outcomes and how they will be assessed:**

Student Learning Objectives for the major are to:

- Understand the skills and processes involved in marketing management
- Understand the process of creating a market orientation within the firm and how individual managers can contribute to these efforts.

Students will demonstrate achievement of these objectives through written individual and group work and through presentations to classmates, faculty, and in some cases members of the business community. Case analysis and discussions as well as team projects involving integration of the aforementioned will play a critical role in this assessment.

Proposed Marketing Major Course Requirements  
10.5 credits

Required course: 3.0 credits

M503 Marketing Research (3 credits)

500-level marketing electives: a total of 7.5 credits

Among the elective courses most likely to be offered:

M540 Service Marketing (1.5 credits)

M544 Advertising and Sales Promotion (3.0 credits)

M546 Marketing Strategy (1.5 credits)

M550 Customer-Oriented Strategies (3.0 credits)

M595 Special Topics in Marketing (1.5 or 3.0 credits)

Industrial Marketing

Database Marketing

Marketing Engineering

Note: In academic year 2004-5, the KSBI marketing faculty will propose creating permanent course numbers of some of the more frequently-offered M595 topics.

Following is a list of the marketing course descriptions:

**M 503 Applied Marketing Research (3 cr.)** P: M 501. The basic objective of this course is to develop the student's understanding of marketing research as it applies to marketing decision making. The course covers principles of qualitative, experimental and survey research designs, secondary and syndicated data sources, and questionnaire design. The major focus will be on the tools used to properly collect market research information.

**M 540 Service Marketing (1.5 cr.)** This course focuses on the marketing problems and strategies of service and not-for-profit organizations. Subjects covered include the nature of services, organizing for services delivery, managing services demand, tailoring the customer mix, and managing supply.

**M 544 Managing Advertising and Sales Promotion (3.0 cr.)** Theories and practices of advertising, sales promotion, and public relations as they relate to the overall marketing program. Emphasis is placed on policy planning, decision tools, and the legal and social environment.

**M 546 Marketing Strategy (1.5 cr.)** The course provides a high-involvement simulation experience that emphasizes identifying, selecting, and implementing marketing strategies. The simulation provides the competitive environment that reflects many of



the complex characteristics of real world decision making.

**M 550 Customer-Oriented Strategies (3 cr.)** Companies increasingly recognize the importance of being customer driven and the role that customer satisfaction plays in maintaining competitive advantage in the marketplace. This course provides students with a rich understanding of how this understanding can help managers make better business decisions. The course covers business-to-business, as well as individual consumer behavior.

**M 595 Relationship Marketing: The strategic role of Buyers and Sellers in an Industrial Market (3 cr.)** P: M 501 Theories and practices of business to business marketing from the perspective of the buyer and the seller with an investigation into the strategic and behavioral roles inherent in relationship marketing. Using cases, role plays, and exercises we will analyze business markets and develop programs to build relationships. We will focus on issues relating to negotiation, relationship management and other strategic issues related to the interaction of the buyer and the seller.

**M 595 Variable Topics in Marketing: Strategic Database Management** P: M 501 Tuesdays (May 11 – July 20th) This course is designed to help marketing managers understand one of the emerging trends in marketing, customer-driven database management. Departing from the traditional focus on mass marketing and brand equity, this course integrates the concept of Customer Equity and the empirical models used in Database Marketing. It enables marketers to manage customer portfolios across segments and over time, and gives marketers the means to lengthen customer life cycles, tailor the marketing mix, and balance customer acquisition and retention. This course is also related to Customer Relationship Management (CRM) by helping marketers know what customers want, through their attitude and actual behavior, and greatly increase the cost efficiency and effectiveness of marketing programs.

**M 595 Marketing Engineering** P: M 501 - Fall 2004. This course is designed to help students move from conceptual marketing to marketing engineering. It will help students in accessing and using computer assisted models when making marketing strategic and tactical decisions, a skill that is in increasing demand in organizations today. Accordingly, it will deal with the use of data to make marketing decisions. It will introduce recently developed quantitative models to improve marketing decision making in such areas as segmentation/targeting, positioning, promotions, advertising, and new product forecasting.

Review of Proposal for  
**Marketing Major in Evening MBA Program**  
Kelley School of Business

The case for this new major in the existing Master of Business Administration program offered on the IUPUI campus is stated succinctly and rather persuasively. The proposed curriculum seems coherent and appropriate, but some additional information would be helpful for the members of the Graduate Affairs Committee, on the following points:

1. Are the marketing courses in the proposed curriculum already being offered on the Indianapolis campus, by existing graduate faculty members based in Indianapolis, with sufficient frequency so that a student can expect to complete the requirements in a reasonable time period? In recent semesters, the Schedule of Classes has listed only one graduate marketing course (typically M590 Independent Study in Marketing, which is not even in the proposed curriculum). How will so many marketing courses (rarely or perhaps never offered before at IUPUI) be arranged and staffed?
2. Is there evidence of student demand? For example, has enrollment been satisfactory whenever the occasional graduate marketing course has been offered? Is there correspondence from those who have taken the undergraduate marketing courses, who now request opportunities to continue their education in this specialty?
3. What is the anticipated impact on the department's current offerings? If most of the students in the new marketing major would have entered the Evening MBA program anyway but majored in something else, then it may be necessary to cut back on other offerings for the existing majors. Will it be possible to arrange for a new major without attracting a significant number of new students and without disrupting the existing offerings for other majors?
4. How will it be possible to offer the new major before the hiring of a new faculty member specializing in marketing? The proposed starting date for the new program is Fall 2004, but the new hire will not take place until Fall 2005. Is there a contingency plan, in case the search for the new expert takes longer?

August 17, 2004

To: Dean Sherry Queener, Graduate Affairs Committee

From: Steve Jones, Chairperson of Kelley School of Business MBA Program  
Kathryn J. Wilson, School of Science Associate Dean for Research and Graduate Studies

Re: Dual MBA/MS Science Degree

The Faculties of the Indiana University Kelley School of Business Indianapolis and the Purdue School of Science Indianapolis at IUPUI have approved a dual MBA/MS Science degree program. An overview of the program is presented below. Key points are:

- Individual academic departments within the School of Science have the option of participating in the dual-degree program.
- Students must apply and be accepted by both Schools.
- Participation in the dual degree program requires 66 hours of coursework, 24 hours from the School of Science and 42 hours from the Kelley School of Business.

***THE INDIANA UNIVERSITY PURDUE UNIVERSITY INDIANAPOLIS  
MBA/MS SCIENCE DUAL DEGREE PROGRAM INDIANAPOLIS***

The Indiana University Purdue University MBA/MS Science dual degree program is a program that allows for the concurrent study of graduate science and graduate business course work and leads to both the MBA degree and a MS Science degree. The program is designed for individuals who want to practice science involving business clients, work in a corporate science department, or work in a government agency regulating business, among other science/business interrelated opportunities.

Candidates must meet the admissions and prerequisite criteria of each school and be separately admitted by each. Candidates may be admitted to the Kelley School of Business in either August or January. For most School of Science Departments, students are admitted for the fall semester, but students may be admitted in the spring semester in some programs.

The MBA/MS Science degree requires three to four years of full-time study instead of the four to five years that would be required if the two degrees were to be earned separately. The program requires 66 total credit hours for graduation: 24 credit hours at the School Science Indianapolis and 42 credit hours at the Kelley School of Business Indianapolis. Non-dual degree study requires 81 total credit hours, 30 credit hours at the School of Science Indianapolis and 51 credit hours at the Kelley School of Business Indianapolis. Summer school during the first two summers of the dual degree program is encouraged to help the MBA/MS Science student attain increased credit hours and ease potential scheduling conflicts that may arise when scheduling course work in two different professional schools. Some MBA courses are required to be taken during the summer term.

The MBA/MS Science program is designed so that students take courses in both programs simultaneously. The degrees are conferred simultaneously when all requirements for graduation for the dual degree student have been met in each professional program.

## MEMORANDUM

Date: May 25, 2004

To: William M. Plater, Executive Vice Chancellor, Dean of Faculties  
Sherry Queener, Associate Dean Graduate School  
Graduate Affairs Committee

From: Roger W. Schmenner, Associate Dean Kelley School of Business  
David L. Stocum, Dean School of Science

Re: MBA/MS Dual degree program in Business and Science

The faculties of Kelley School of Business and the Purdue School of Science on the IUPUI campus have agreed to offer a dual masters degree program beginning in fall 2004. This program is modeled on existing dual degree programs in both schools and does not involve new degrees, new majors, or new courses. The following are the salient features of the dual degree program.

The Indiana University Purdue University MBA/MS Science dual degree program is a program that allows for the concurrent study of graduate science and graduate business course work and leads to both the MBA degree and a MS Science degree. The program is designed for individuals who want to practice science involving business clients, work in a corporate science department, or work in a government agency regulating business, among other science/business interrelated opportunities.

Candidates must meet the admissions and prerequisite criteria of each school and be separately admitted by each. The MBA/MS Science degree requires three to four years of full-time study instead of the four to five years that would be required if the two degrees were to be earned separately. The program requires 66 total credit hours for graduation: 24 credit hours at the School Science Indianapolis and 42 credit hours at the Kelley School of Business Indianapolis. Non-dual degree study requires 81 total credit hours, 30 credit hours at the School of Science Indianapolis and 51 credit hours at the Kelley School of Business Indianapolis.

The MBA/MS Science program is designed so that students take courses in both programs simultaneously. The degrees are conferred simultaneously when all requirements for graduation for the dual degree student have been met in each professional program.

The School of Science offers MS degrees in the following departments: Biology, Chemistry, Computer and Information Science, Geology, Mathematical Sciences, Psychology, and Physics. Each science department may decide whether to adopt the dual degree for its graduate students.

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Roger W. Schmenner, Associate Dean  
Kelley School of Business

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David L. Stocum, Dean  
School of Science



Report to IUPUI Graduate Affairs Committee  
Update on PhD in Nursing Science  
August 2004

The School of Nursing is committed to maintaining a PhD program that is current, relevant and responsive to the changes and needs in higher education and a global health care delivery system. To maintain this excellence, faculty continually monitor trends in the discipline and beyond, and apply them to student learning as appropriate. The attached table summarizes the updates that have been made within the degree, without changing the degree's research-intensive focus, the program outcomes and competencies, the credit hours or fundamental program structure. The updates are based on the following documents/sources:

American Academy of Colleges of Nursing (2001) Indicators of quality in research-focused doctoral programs in nursing.

Carnegie Foundation for the Advancement of Teaching (2002). Overview of the Carnegie Initiative on the Doctorate and Preparing Stewards of the Discipline

External Review of the IUSON PhD Program (2000, 2001) and the Report of the Re-Vision of the PhD in Nursing Task Force who responded to their recommendations (2002, 2003)

National League for Nursing (2002). Position Statement: The Preparation of Nurse Educators.

Nyquist, J. & Wulff, D.H. (2002). Re-envisioning the PhD: Recommendations from National Studies on Doctoral Education. (Pew Charitable Trust).

Summary of modifications in PhD in Nursing Science – August 2004

Component	Prior	Changes	Comments
Theory	N502 Nursing Theory I N607 Nursing Theory II	D607 Nursing Theory II New: Mid-Range Theory	Students often come with masters-level theory course, or if in the post-BSN option, they take N502 in their masters work. Therefore, we strengthened the theory content by adding Mid-range. This course emphasizes theory development with specific attention to concept and statement clarification.
Research	R500 Nursing Research I R600 Nursing Research II	R500 Nursing Research I R600a Nursing Research II R600b Nursing Research III	Divided R600 into 2 courses, allowing greater depth in non-experimental, experimental and quasi-experimental designs.
Research Methods	Two optional courses: R610 Qualitative Methods R611 Adv Qualitative Methods	All student required to take R610 Qual Methods Also, students chose an advanced methodology course, either qualitative or quantitative	Gives every student exposure and beginning expertise in qualitative methodology, with the opportunity to drill deeper into preferred methodology.
Proseminars & Prof. dev'mnt core	D730 State of Nsg Science I D731 State of Nsg Science II	D700 Nsg Research Seminar New Preparing Future Faculty	Rearranged more current content into more relevant structure.
Credit hours	90	90	Same
Program Plan structure (with credit hours)	Theory, Research, Statistics: 24 Nursing Science Major: 30 Minor: 12 Dissertation 24	Prof Development Core: 8 Theory 6 Research and Methods 25 Nursing Major: 21 Minor 12 Dissertation 18	New gain of 7 credit hrs in theory and research. Professional Development Core includes Nursing Research Seminar (including grantsmanship) (3), Introduction to Research Ethics (3) and Preparing Future Faculty (2)
Focus areas	Acute & Chronic Health Probs. Environments for Health Family Health Adaptation Health Promotion	Clinical Nursing Science Health Systems	Organized into cleaner alignment with faculty research and Centers of Excellence within school.





DRAFT  
April 5, 2004

*Rules and Guidelines*  
for participation of IUPUI in the Ph.D. Program of Purdue  
University for studies in the Mechanical Engineering

A cooperative agreement between:  
The Purdue School of Engineering and Technology, IUPUI  
and  
The School of Mechanical Engineering, Purdue University,  
West Lafayette

In this document, we lay out the framework for a cooperative component of the Ph.D. program at Purdue University, by which graduate students may pursue their Ph.D. degree in Mechanical Engineering while in residence at IUPUI. This agreement does not establish a new, distinct program, but rather establishes the guidelines by which ME Department at IUPUI can more fully participate Kathy Purvis, Managing Director Student Financial Aid Services in the Purdue University Ph.D. program. The purpose of this agreement is to formalize this arrangement, thus improving the competitiveness at both campuses for fulfilling the missions of the university: discovery, learning, and engagement. The success of this cooperative program depends critically upon the development of a strong collaboration between campuses in each of these missions, and we identify within this document metrics that will allow us to identify strengths and weaknesses of this collaboration. The guiding principles to be observed in establishing the guidelines for this program, presently and in the future, are twofold. First, the quality of the educational program must adhere to the highest standards possible. Second, the program must afford the students within the ME graduate program increased opportunities in education and research. With these principles in mind, we set forth in this document the Rules and Guidelines for the administration and implementation of this cooperative program.

**A. Steward Department:** The School of Mechanical Engineering, West Lafayette shall serve as the Steward Department.

**B. Head of the Graduate Program:** The Head of the School of Mechanical Engineering, West Lafayette is the Head of the Graduate Program, as recognized by the Graduate School.

**C. ME Graduate Committee:** The ME Graduate Committee at the West Lafayette campus (WL) has the responsibility for establishing all policies regarding the ME graduate program, subject to the rules and guidelines of the Purdue University Graduate School. As such, IUPUI participation in the ME Ph.D. program is subject to the rules and guidelines established by this committee. One faculty member from ME department at IUPUI shall serve as a voting member on the WL ME Graduate Committee. This member will be appointed by the Chair of ME at IUPUI.

**D. Cooperative Agreement Oversight Committee:** A Cooperative Agreement Oversight Committee will be established to monitor the activities and progress of the Cooperative Agreement Program. This committee shall consist of seven members, including the ME Associate Head for Graduate Education, who is to chair this committee, the ME Head at WL and the ME Chair at IUPUI, two faculty members from IUPUI and two faculty members from WL. The latter four members will serve terms of five years (with staggered completion dates), and are to be assigned by their respective school head/chair. This committee is to report to, and make recommendations for program revisions to the WL ME Graduate Committee. In addition to general oversight of the program, this committee has the responsibility to hear any disagreements and disputes that may arise concerning this program, and mediate a resolution.

**E. Admission to the Ph.D. program:** Students seeking admission to the program must apply through the standard application process. The student should indicate the campus at which he/she is primarily interested in studying. The applicant pool will be open to both campuses for review of suitability and recruitment. There will thus be the possibility of transferring the student's admission request between the campuses provided that the applicant has no objections to it. (Applicants will not compromise their admission decisions for their primary campus choice by selecting the second option.) Applications to IUPUI campus shall be sent to the IUPUI E&T Graduate Office and shall be evaluated by the IUPUI ME Graduate Education and Research Committee, which will make a recommendation to the ME Graduate Committee in WL for a final decision according to its established standards. Admission letter for every student will indicate the location (West Lafayette or Indianapolis) at which the student will primarily pursue his/her studies.

A student admitted for study at one campus may request to move to the other campus at any time during his/her program. A student may initiate this by submitting a change to his/her plan of study. Approval of the request will be subject to the usual limitations of resources availability.

Exceptionally strong applicants can be admitted to the Direct Ph.D. program for study either at WL or IUPUI after earning their BS degree, without first earning a Master's degree.

**F. Residency and Course Requirements:** Students in this program are resident at IUPUI. All course registrations (adds, drops, and modifications) are submitted through and processed by ME at IUPUI. All fees are paid at IUPUI.

The Chair of ME at IUPUI will transmit a copy of (1) all course registrations or changes in course registrations within one week of submission, and (2) all grade reports for students in this program within one week of posting to WL ME Associate Head for Graduate Education.

There is no residency requirement to be completed for WL. However, a minimum of four courses from each student's plan of study (or eight courses for direct Ph.D. students) must have originated at WL.

**G. Plans of Study, Changes to Plans of Study, and Final Audits:** Prior to submission to the Graduate School, all Plans of Study, Changes to Plans of Study, and Final Audits for students pursuing their studies at IUPUI must be approved by: (1) the ME departmental chair and the Dean of Engineering and Technology at IUPUI, and (2) the ME Associate Head for Graduate Education at WL. The Plan of Study must indicate those courses taken at IUPUI and those courses taken through WL.

**H. Advisory Committee:** The student must form his/her Doctoral Advisory Committee before the end of the second semester of the academic program. For students in the Direct Ph.D. Program, the Doctoral Advisory Committee must be formed by the end of the third semester following the admission to the program. This committee consists of at least four faculty members and is formed upon approval of the Final Plan of Study. This committee shall be co-chaired by one ME faculty member from IUPUI and one ME faculty member from WL. These co-chairs serve as the major professors in guiding the student's thesis research. *The co-chairs from IUPUI and WL are to work together in guiding the student's thesis research. To foster a strong collaborative effort in advising as well as in guiding the thesis research, it is recommended that the two co-chairs mutually consult while selecting the doctoral graduate student.* At least two members of the Doctoral Advisory Committee (including the co-chair) must be ME faculty members at the WL campus. One member of the committee must be from a department/school outside ME. This member can be from WL or IUPUI.

**I. Qualifying Examination:** Ph.D. students pursuing their studies at IUPUI must take the Qualifying Examination at WL, subject to the same conditions and rules as WL students. An exam may be held simultaneously at IUPUI if a sufficient number of students appearing in a particular Qualifying Examination is from this program.

**J. Preliminary Examination, Formal Review Examination, and Final Examination:** All examinations must be scheduled through the WL ME Graduate Office, and conducted at the WL campus. The Report of the Examination (Graduate School Forms 10 and 11) must be signed by the WL ME Associate Head for Graduate Education before submission to the Graduate School and copied to the Chair of the Department of Mechanical Engineering at IUPUI. Deadlines for these examinations each semester are established by the Purdue University Graduate School and are tied to the academic calendar of the WL campus.

**K. Thesis Approval:** The format of the Ph.D. thesis must be checked and approved by the WL ME Thesis Format Advisor. The format checking process will be the same as at WL. The format advisor indicates his/her final approval by signing the Thesis Acceptance Form (*Graduate School Form 9*). This form also requires the signatures of the WL ME School Head and IUPUI Department Chair, signifying approval of the thesis for quality.

**L. Other requirements for the Ph.D. degree:** Unless otherwise specified in this document or in later determinations by the WL ME Graduate Committee, students pursuing their degrees at IUPUI must adhere to the same requirements and program deadlines as students studying at WL. These rules are specified in the "Doctoral Program Handbook."

**M. Change of Residency.** As noted in section E, "Admission to the Ph.D. Program," a student admitted for study at one campus may request to move to the other campus at any time during his/her program, subject to the approval of the faculty advisors involved and the availability of support. This requires a change to plan of study, in which the student will indicate all changes to his/her curriculum and advisory committee members. The campus(es) at which all coursework was (or will be) taken must also be indicated. These changes require the approval of the student's old as well as revised Advisory Committee and will be reviewed on a case-by-case basis.

**N. Semi-Annual and Annual Reviews:** *At the end of each Fall and Spring semesters, the two co-chairs of the student's advisory committee will provide a short (< 1 page) progress report to the Associate Head for Graduate Education at WL. This report will address issues of both research and courses.* The IUPUI ME Graduate Committee will review the academic progress of each

student in this program annually. A summary report prepared by the IUPUI ME Graduate Committee will be sent to the ME Associate Head for Graduate Education at WL for review. The purpose of these reviews is to ensure continuous progress towards completion of degree requirements as well as interaction of the co-advisors with the students

**O. Course Proposals:** Proposals for new courses, course revisions, and course deletions (*Registrar's Form 40*) at IUPUI must have the following approvals: (1) IUPUI department chair and school dean; and (2) ME Graduate Committee, ME School Head and school dean, WL. The IUPUI ME Graduate Committee will approve experimental offerings (ME 597 or 697) by the department. Proposals to the WL ME Graduate Committee for new courses and course revisions must be accompanied by complete course information, including course title, credits, pre- and co-requisites, description, outline, the name of the professor in charge of the course and justification for the course in the context of existing IUPUI and WL graduate level courses. The Graduate Committee will also solicit an opinion from the Academic Area Committee(s) in WL most closely associated with the proposed course.

**P. Approval of IUPUI Faculty Members as Co-Chairs of an Advisory Committee:** IUPUI faculty member, who is co-chair of an Advisory Committee, must have a P\* status, which needs approval from the steward department. This approval is at two levels: (1) the IUPUI co-chair must be approved by the ME Head of the Graduate Program, and (2) The IUPUI co-chair must be certified by the Graduate School to serve as a co-chair on a student's Doctoral Advisory Committee. A *Request for Graduate Faculty Certification (Graduate School Form 24)* must have the following approvals: (1) IUPUI department chair and school dean; and (2) ME Associate Head for Graduate Education and the Dean of Engineering, WL. All requests to serve as an IUPUI co-chair must be presented to the WL ME Graduate Committee, which will consider the following factors: (1) a satisfactory evaluation of the CV of the faculty member by the Graduate Committee, (2) if required, a positive recommendation from the most closely associated Academic Area Committee(s) within the School of Mechanical Engineering at WL, and (3) a strong research and scholarship record.

For faculty members from IUPUI who are participating in the Ph.D. program (at the co-chair level) for the first time, initially a S status will be considered for advising a specific student. Following a successful completion of the joint advising effort, the faculty member from ME IUPUI can request a P\* status for all future co-advising of doctoral students.

**Q. Advertisement of the IUPUI component of the Ph.D. program:** ME at IUPUI and/or ME at WL may advertise this component of the program in print

and through their web sites and program handbooks. All such materials must have the prior approval of the WL ME Head of the Graduate Program.

**R. Review of the Cooperative Agreement:** The ME Graduate Committee will conduct a review of the cooperative agreement every five years, or more frequently at its discretion. In this review, the following data will be examined and evaluated:

1. Academic progress of students currently in the program.
2. Academic record of students who have completed the program.
3. Issues that have arisen in the cooperative program, and how they were resolved.
4. Other factors related to the cooperative agreement.
5. Distribution of grades earned in WL courses and Indianapolis courses.

The purpose of this review is (1) to determine whether the program is meeting its goals of providing the best educational and research opportunities for ME students and (2) to revise the program to correct any problems that may have arisen.

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**Daniel Hirleman** (date)  
Head and Professor of Mechanical Engineering  
School of Mechanical Engineering, Purdue West Lafayette

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**Hasan U. Akay** (date)  
Chair of Mechanical Engineering  
School of Engineering and Technology, IUPUI

**Suresh Rao**  
Associate Dean of Engineering  
School of Engineering, Purdue West Lafayette

**Nasser H. Paydar**  
Associate Dean of Academic Programs  
School of Engineering and Technology, IUPUI

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**Linda P. B. Katehi** (date)  
Dean  
Schools of Engineering, Purdue West Lafayette

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**Oner H. Yurtseven** (date)  
Dean  
School of Engineering and Technology, IUPUI

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**John J. Contreni** (date)  
Interim Dean of the Graduate School  
Purdue University