To: Dr. France Córdova  
From: Dr. Tim Sands, Executive Vice President for Academic Affairs and Provost  
Date: June 11, 2012  
Re: Proposal for a new degree program – B. S. in Technical Communication at IUPUI

Objectives: The proposed Bachelor of Science in Technical Communication (TCM) offered at IUPUI in the School of Engineering and Technology will provide students with education in the principles and practices of technical communication in its many forms. Specifically, the degree will develop students' expertise in technical communication, in using appropriate communication technologies, in understanding technology as a topic, and in understanding how technical communication fits into contemporary workplace contexts and the larger society. The degree will teach students skills in adapting to the changing field of technical communication, an area that is projected to grow in importance in coming decades as technology advances in complexity.

Clientele to be served: This degree will serve 1) students who wish to work as entry-level technical communicators, 2) students who may wish to continue with graduate work, both applied and theoretical, in technical communication and/or in related fields, 3) students who wish to double major, pursuing work in a technical field relevant to technical communication such as web development, usability, or project management, and 4) mid-career individuals who wish to upgrade their skills, especially because it will be possible to complete the degree in three years if students take courses during the summers. The proposed degree will offer students from Indiana and the surrounding states an opportunity to earn a BS in a rapidly growing field that offers opportunities to fulfill the societal need for clear and useful communication with and about technology.

Curriculum: Total required hours: 120

- **Technical Communication** – 53 hours
  - Required courses, including Speech, English Composition, and Technical Communication – 32 hours
  - Electives from courses listed within Technical Communication, English, Organizational Leadership and Supervision, Communications, Informatics, and Medical Terminology – 21 hours

- **Science/Technology/Math** – 34 hours
  - Mathematics - 3 hours
  - Required Technical/Scientific courses – 7 hours
  - Selected Technical/Scientific courses – 24 hours

- **Organizational/Cultural Dynamics** – 12 hours
  - Required course in project management or quality control – 3 hours
  - Electives from courses listed within Organizational Leadership and Supervision, World Languages and Culture, Informatics, Engineering, and Psychology – 9 hours

- **Humanities/Social Sciences** – 21 hours
  - Required courses in Technology in Popular Culture and Technology and Literacy - 6 hours
  - Electives from courses in Architecture, Art, Liberal Arts, Informatics, and Music – 15 hours
For more details and specific course options, see Proposed Curriculum below.

Specializations: Students will be encouraged to earn a minor and/or a certificate in a technical/scientific area. In addition, students earning the BS in Technical Communication may elect to specialize in Healthcare and Technical Communication, International Communication, or Usability in Technical Communication.

Electives: Electives will be available within the four core areas specified above. While there is room for flexibility, each area will have a number of required courses. The flexibility in electives will accommodate students' interests and career goals while still providing educational experiences designed to produce well-rounded technical communicators.

Requirements regarding internships or practica: The proposed major will require at least one internship course in order to help students integrate theoretical understanding with situated practice. This internship will supplement the many courses in the major that offer experiential learning designed to integrate theory and practice.

Unique or innovative features of the curriculum: In the United States, about 146 institutions offer BA degrees in Technical Communication, but only about 20 offer a BS in the field (according to the Society for Technical Communication’s academic database http://www.stc.org/education/academic-database.) The proposed TCM major at IUPUI will lead to a BS with a strong background in technology. Such an education will help technical communicators understand technology both as a topic and as a tool that they will employ in contemporary technical communication venues.

This proposed degree will draw on existing courses from several academic programs on the IUPUI campus in order to provide students with enriching interdisciplinary experiences. Doing so is consonant with the theory and practice of contemporary technical communication, which applies insights gained from multiple fields of study. Technical communicators influence many areas of product development, deployment, and support, so broad knowledge of multiple areas is requisite. As the degree program grows, TCM will develop more courses to enhance the degree, and a variety of courses on the IUPUI campus will provide students with a valuable breadth of interdisciplinary experience.

Employment and Further Education Opportunities: In recent years, technical communication has come to be recognized as a growing, dynamic field of study and practice. As technology has become more complex and specialized, demand has increased for people who can understand both the technology and effective approaches for communicating about that technology and documentation products that are more usable, technical communicators' roles have become more crucial in helping non-specialist users to understand and employ complex technology. For people who wish to expand their understandings of the theory and practice of technical communication, recent years, many graduate programs have emerged across the United States to provide opportunities for further education. The proposed BS in TCM will provide them with a solid foundation that will serve them well as they pursue graduate work.

Resources and Enrollment: No new state funding is requested and no additional learning resources are necessary to implement the program. Enrollment projections indicate 15 students in year one with projected enrollment of 54 by year four.
State of Indiana
Commission for Higher Education

Institution: Indiana University Purdue University Indianapolis
College: Purdue School of Engineering and Technology, IUPUI
Department: Design and Communication Technology
Degree Program Title: Technical Communication
Form of Recognition to be Awarded/Degree Code: Bachelor of Science in Technical Communication
Suggested CIP Code 09.0908

Location of Program/ Campus Code: Indianapolis

Projected Date of Implementation: Fall semester 2012

Approved by Institutional Board of Trustees on ________

Signature of Authorizing Institutional Officer _______________________

Date ________

Date Received by Commission for Higher Education ________

Commission Action _____ Date ________
Contents
A. Abstract ................................................................................................................................. 4
B. Program Description ........................................................................................................... 5
   1. Proposed Program and its Objectives .............................................................................. 5
   2. Admission Requirements and Anticipated Student Clientele .................................. 6
      a. Admission requirements ........................................................................................... 6
      b. Prerequisite coursework ......................................................................................... 6
      c. Anticipated clientele ................................................................................................. 6
      d. Enrollment limitations .............................................................................................. 7
      e. Transfer credits ........................................................................................................ 7
   3. Proposed Curriculum ....................................................................................................... 7
      a. Requirements ........................................................................................................... 7
      b. Sample curriculum .................................................................................................. 11
      c. Existing and proposed courses ............................................................................... 14
      d. Required courses delivered by another institution ................................................. 15
      e. Relationship of the proposed BS to the current Technical Communication (TCM) Certificate, IUPUI .... 15
   4. Form of Recognition ....................................................................................................... 15
      a. Degree to be awarded ............................................................................................. 15
      b. CIP Code .................................................................................................................. 15
      c. Program, organizational, and site information on diploma .................................... 15
   5. Program Faculty and Administrators ............................................................................. 15
      a. Faculty and administrators involved with the program ......................................... 15
      b. New Faculty members required to implement the program .................................. 16
   6. Needed Learning Resources ......................................................................................... 16
      a. Availability of equipment and facilities that directly support the program ............ 16
      b. Potential unmet resources that will prohibit the offering of a high quality program .. 16
   7. Other Program Strengths ............................................................................................... 16
      a. Features defining the character of the proposed program that make it distinctive .... 16
      b. Anticipated collaborative arrangements with other parties .................................... 17
C. Program Rationale ........................................................................................................... 17
   1. Institutional factors ....................................................................................................... 17
      a. Program’s compatibility with the institution’s mission ......................................... 17
      b. Planning process that has resulted in the development of this new program .......... 17
      c. Impact on other institutional, research, or service programs of the institution ...... 18
      d. Proposed program’s utilization of existing resources: ............................................. 18
   2. Student Demand Enrollment Data and Projections .................................................... 18
   3. Transferability ............................................................................................................. 20
   4. Access to Graduate and Professional Programs ......................................................... 21
   5. Demand and Employment Factors ............................................................................. 21
      a. Geographic region to be served ............................................................................. 22
      b. Review of the literature indicates a growing demand for technical communicators . 22
      c. Potential regional employers ............................................................................... 22
      d. Sampling of current employment opportunities .................................................... 23
      e. Expert Opinion ....................................................................................................... 23
   6. Regional, State, and National Factors ......................................................................... 24
      a. Comparable programs in the state or region ......................................................... 24
      b. External agencies .................................................................................................. 24
D. Program Implementation and Evaluation ....................................................................... 24
   1. Program Implementation ............................................................................................... 24
   2. Program Evaluation ..................................................................................................... 24
      a. Quality and Efficiency ........................................................................................... 25
      b. Appropriateness ...................................................................................................... 25
      c. Availability of Similar Programs ............................................................................ 25
      d. Personal and Social Utility .................................................................................... 25
      e. Student Demand ................................................................................................... 25
      f. Student Access ....................................................................................................... 25
      g. Flexibility of Program Design ............................................................................... 25

2
h. Market Demand
i. Inter-institutional and Inter-departmental Cooperation
j. Flexibility of Providing Instruction

E. Tabular Financial Information

Appendix 1—TCM Competencies and Academic Levels Integrated with Outcomes
Appendix 2—Letters of Support from Regional Employers and Practitioners
Appendix 3—Letters of Support from Administrators in Regional Academic Institutions
Appendix 4—Information about the April 2011 Survey of Technical Communication Programs
Appendix 5—Information on areas of expertise needed for technical communicators from interviews with local technical communicators / supervisors
Appendix 6—Assessment Plan for the TCM BS
Appendix 7—IUPUI Principles of Undergraduate Learning (PULs)
Appendix 8—IUPUI's RISE to the Challenge Initiative
Appendix 9-- Degree Articulation Agreement with Ivy Tech (See following pages)
A. Abstract

Bachelor of Science in Technical Communication
Offered by the Department of Design and Communication Technology
Purdue School of Engineering and Technology
Indiana University-Purdue University Indianapolis

Objectives: The proposed Bachelor of Science in Technical Communication (TCM) offered at IUPUI will provide students with education in the principles and practices of technical communication in its many forms. Specifically, the degree will develop students' expertise in technical communication, in using appropriate communication technologies, in understanding technology as a topic, and in understanding how technical communication fits into contemporary workplace contexts and the larger society. The degree will teach students skills in adapting to the changing field of technical communication, an area that is projected to grow in importance in coming decades as technology advances in complexity.

Clients to be Served: This degree will serve 1) students who wish to work as entry-level technical communicators, 2) students who may wish to continue with graduate work, both applied and theoretical, in technical communication and/or in related fields, 3) students who wish to double major, pursuing work in a technical field relevant to technical communication such as web development, usability, or project management, and 4) mid-career individuals who wish to upgrade their skills, especially because it will be possible to complete the degree in three years if students take courses during the summers. The proposed degree will offer students from Indiana and the surrounding states an opportunity to earn a BS in a rapidly growing field that offers opportunities to fulfill the societal need for clear and useful communication with and about technology.

Curriculum: Total required hours: 120

Distribution of hours in four core areas:

Technical Communication — 53 hours
- Required courses, including Speech, English Composition, and Technical Communication — 32 hours
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Humanities/Social Sciences — 21 hours
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For more details and specific course options, see Proposed Curriculum below.

Specializations: Students will be encouraged to earn a minor and/or a certificate in a technical/scientific area. In addition, students earning the BS in Technical Communication may elect to specialize in Healthcare and Technical Communication, International Technical Communication, or Usability in Technical Communication.

Electives: Electives will be available within the four core areas specified above. While there is room for flexibility, each area will have a number of required courses. The flexibility in electives will accommodate students' interests and career goals while still providing educational experiences designed to produce well-rounded technical communicators.
Requirements regarding internships or practice: The proposed major will require at least one internship course in order to help students integrate theoretical understanding with situated practice. This internship will supplement the many courses in the major that offer experiential learning designed to integrate theory and practice.

Unique or innovative features of the curriculum: In the United States, about 146 institutions offer BA degrees in Technical Communication, but only about 20 offer a BS in the field (according to the Society for Technical Communication’s academic database http://www.stc.org/education/academic-database). The proposed TCM major at IUPUI will lead to a BS with a strong background in technology. Such an education will help technical communicators understand technology both as a topic and as a tool that they will employ in contemporary technical communication venues.

This proposed degree will draw on existing courses from several academic programs on the IUPUI campus in order to provide students with enriching interdisciplinary experiences. Doing so is consonant with the theory and practice of contemporary technical communication, which applies insights gained from multiple fields of study. Technical communicators influence many areas of product development, deployment, and support, so broad knowledge of multiple areas is requisite. As the degree program grows, TCM will develop more courses to enhance the degree, and a variety of courses on the IUPUI campus will provide students with a valuable breadth of interdisciplinary experience.

Employment and Further Education Opportunities: In recent years, technical communication has come to be recognized as a growing, dynamic field of study and practice. As technology has become more complex and specialized, demand has increased for people who can understand both the technology and effective approaches for communicating about that technology. As consumers demand technology and documentation products that are more usable, technical communicators’ roles have become more crucial in helping non-specialist users to understand and employ complex technology. For people who wish to expand their understandings of the theory and practice of technical communication, recent years, many graduate programs have emerged across the United States to provide opportunities for further education. The proposed BS in TCM will provide them with a solid foundation that will serve them well as they pursue graduate work.

B. Program Description

1. Proposed Program and its Objectives

The faculty of the Technical Communication program in the Design and Communication Technology (DCT) Department in the Purdue School of Engineering and Technology, in consultation with potential employers, practitioners in the field, and regional academic institutions, have developed this proposal to create the degree of Bachelor of Science in Technical Communication from the Purdue School of Engineering and Technology on the IUPUI campus. (See Appendix 1 for a detailed list of the knowledge, skills, and personal traits that TCM degree students will develop and demonstrate.)

Specific objectives for graduates include:

Knowledge: Upon graduation, students will have a useful understanding of the theories that inform technical communication, especially as these theories are integrated with practice. They will understand principles of 1) verbal and visual communication as expressed orally, in writing, and in electronic formats, 2) collaborative writing and team dynamics, 3) usability and user-centered design, and 4) project management. They will also understand the basics of technology as a topic about which they will typically communicate.

Values: Upon completing this degree, students will understand that technical communicators often serve as “user advocates,” using their knowledge about users to create communication products designed to aid users in utilizing sophisticated technology to achieve their goals. Graduates will understand that technical communicators apply their understandings of users’ goals to devise communication products that help users to employ technology successfully. Graduates will also understand options for addressing with integrity the ethical challenges that arise in complex workplace communication contexts.

Skills: The skills that graduates of this degree will demonstrate correlate well with the knowledge they will attain. Students will develop written and oral communication skills, including the ability to communicate visually. They will develop skills with technology used to create usable communication products in a variety of environments. They will develop abilities to plan and manage complex communication projects. Finally, they will develop skills in negotiating
within organizations in order to accomplish communicative goals. More specifically, they will develop abilities to conduct usability tests and analyze the data to improve products including software applications, websites, and devices; communicate complex technical concepts in a clear manner; successfully collaborate with and train colleagues in best practices; manage all aspects of communication projects from start to finish; use differing style guides appropriately; and communicate effectively with specific audiences using an appropriate approach.

Other outcomes: Students will develop an awareness of the situatedness of technical communication, understanding that conventions of communication need to be adapted to the needs of specific users and contexts. Upon completing this degree, they will also understand that effective technical communication will sometimes be internationalized or localized. Finally, because they will earn a BS, they may have more credibility in a technical setting than if they had earned a BA, according to several individuals who conferred with us in the shaping of this proposal.

All outcomes will demonstrate that students have incorporated the IUPUI Principles of Undergraduate Learning (See Appendix 6 for details) and with the RISE (Research, International, Service-learning, and Experiential Learning) initiative on IUPUI’s campus, as discussed in subsequent sections of this proposal. (See Appendix 2 for letters of support from individuals whose ideas helped to shape this proposal and Appendix 5 for results from interviews with local practitioners whose ideas also helped to shape this proposal.)

2. Admission Requirements and Anticipated Student Clientele
   
a. Admission requirements

Admission requirements are the same as those in effect at IUPUI and for any Technology program in the Purdue School of Engineering and Technology.

Although students will not be required to have their own laptop computer as a condition for admission to the program, TCM majors will be required to provide their own laptop computers that are equipped with the relevant software that is currently available to students for free or at a nominal cost.

b. Prerequisite coursework

Students may be admitted directly to this major. Some more advanced courses will have prerequisites, but these courses will typically be part of a recommended sequence.

c. Anticipated clientele

We anticipate that students pursuing this degree will be interested in creating innovative connections between technology and its users. In addition, graduates will be well qualified to collaborate with the creators of technology, advocating for users and managing communication projects. Because it is a Bachelor of Science program, students who have interests in math, science, engineering, and/or technology will be able to integrate their understandings in these fields with practical applications of communication principles in the contemporary workplace and evolving communication media. In addition, this integration of the two areas will serve them well should they pursue graduate study with an applied or a theoretical focus.

Specifically, this degree program will appeal to several populations (roughly in order from most to least typical, according to a survey we conducted – see Appendix 4):

1. Students who begin work in a technical/engineering degree program but discover that their abilities and interests lie more in communication areas. These students may elect to add the TCM BS as a double major or they may choose to major solely in TCM. In either case, many of the technical courses they have taken will be able to count toward the TCM BS. The proposed degree program can be an effective means for retaining these students in the school and/or university.

2. Students who begin work in a non-technical field but discover they are interested in and skilled at technical communication. These students may elect to add the TCM BS as a double major or they may choose to major solely in TCM. Many of the general courses that they have taken may apply to the TCM BS. This degree can be an effective means for retaining these students in the university.
3. Students who have been in the workforce and who are looking for further education that will advance their careers. The TCM BS will prepare them for a variety of career directions, and they will be able to elect to earn this degree in three years by taking courses in the summer, thereby returning more quickly to the workforce. In addition, portions of their previous course work could be applied to this degree. Many of these students may elect to take courses part-time while remaining in the workforce.

4. Students who are recent high school graduates who wish to earn a degree that will help to prepare them for a career in Technical Communication or a related field and the career changes that inevitably lie ahead. Because the degree program teaches students how to learn about audiences, technology, and communication approaches as well as how to navigate within corporate structures, it will equip these students to adapt to changing circumstances over the durations of their careers.

d. Enrollment limitations

Enrollments will be based on available resources. We do not anticipate that enrollment limits will be required during the first several years. If limitations are eventually required, students will be admitted on a competitive basis as established by academic credentials and experience.

e. Transfer credits

Students will be able to transfer course credits that meet degree requirements from other institutions, especially those with whom IUPUI has articulation agreements. Consistent with IUPUI policy, graduates will need to earn at least 32 credit hours at IUPUI. Existing course articulation agreements between IUPUI and Ivy Tech and other relevant institutions will be honored.

Students who have completed the Ivy Tech requirements for the General Education Transfer Core Certificate and the A.S. in Professional Communication will be able to transfer those courses to apply to the TCM BS requirements. The TCM Program has created an articulation agreement with Ivy Tech Community College. (See Appendix 9 for this agreement).

3. Proposed Curriculum

a. Requirements

To earn the B.S. degree in Technical Communication, students will be required to complete a minimum of 120 credit hours, distributed among the following four core areas.

- Technical Communication – 53 hours
- Science/Technology/Math – 34 hours
- Organizational/Cultural Dynamics – 12 hours
- Humanities/Social Sciences – 21 hours

Students will need to earn at least a C in all classes in order to receive credit toward the TCM degree. In addition, they will need to maintain an overall 2.0 GPA to remain in the degree program.

Credit hour distribution: Four Core Areas of courses required for the IUPUI Technical Communication BS

*indicates a required course

Within the curriculum, students may choose an area of emphasis or “pathway” as they select courses. These optional “pathways” include Technical Communication in Healthcare (suggested courses are marked with an (H)), International Technical Communication (suggested courses are marked with an (I)), and Usability in Technical Communication (suggested courses are marked with a (U)). Courses with “xxxxx” in the number are under development.

Technical Communication Core Area (53 hours)

Required courses (32 hours)
*COMM R110 Public Speaking (3 cr.)
*ENG W131 English Composition (3 cr.)
*TCM 23000 Principles and Practices of Technical Communication (3 cr.)
*TCM 2xxx Tools for Technical Communication (3 cr.)
*TCM 25000 Career Planning in Engineering and Technology (1 cr.)
*ENG W-355 Theory and Practice of Editing (3 cr.)
*TCM 35000 Visual Elements of Technical Documents (3 cr.)
*TCM 42000 Field Experience (3 cr.) P: TCM 23000 and TCM 35000
*TCM 45000 Managing Document Quality (3 cr.)
*TCM 45000 Research Approaches for Technical & Professional Communication (3 cr.)
*TCM 4xx Named Capstone in Technical Communication (3 cr.) or a capstone course with a significant communication component from a related field. (majors only)
*TCM 45500 Technical Communication Portfolio (1 cr. to be taken with the Capstone course)

Group I (12 hours)

Choose four courses from:

TCM 32000 Written Communication in Science & Industry or TCM 34000 Correspondence in Business and Industry
TCM 37000 Oral Practice for Technical Managers
TCM 38000 Technical Communication in the Healthcare Professions (II)
TCM 39500 Independent Study
TCM 3xxx International Dynamics in Technical Communication (I)
TCM 4xxx Usability in Technical Communication (U)
TCM 4xxx Creating User Documentation (U)
TCM 49500 Selected Topics in Technical Communication
ENG W-315 Writing for the Web
ENG W-331 Business & Administrative Writing
OLS 37500 Training Methods

(Depending on student interests, advisors can approve substitutions from Group II to fulfill Group I requirements, as long as students earn 21 credit hours total in the two areas.)

Group II (9 hours)

Choose three courses from:

COMM-C 180 Interpersonal Communication
COMM-C 380 Organizational Communication
COMM-C 392 Health Communication (I)
COMM-C 394 Communication and Conflict
COMM-C 400 Health Provider/Consumer Communication (II)
COMM-C 482 Intercultural Communication (I)
ENG -W 262 Style and Voice for Writers
ENG -W 426 Writing for Popular & Professional Publications
ENG -Z 204 Rhetorical Issues in Grammar and Usage
INFO 1260 Script Writing P: N202
INFO M110 Computer Concepts for Health Information (II)
INFO M210 Data Organization and Presentation in the Healthcare Environment (II)
INFO M220 Healthcare Decision Support (II)
INFO M275 Effective Communication for the Healthcare Environment (II)
INFO N450 Usability Principles for New Media Interfaces P: N285 (U)
JOUR 390 Public Relations Writing
RADI R 109 Medical Terminology or CLAS C209 Medical Terms from Greek & Latin or HIA M330 Medical Terminology (1-3 cr.)

(With an advisor's approval, students can substitute similar courses for those in Groups I and II.)

Technical Communication Hours: 53

Technology/Engineering/Science and Mathematics Core Area (34 hours)
* Mathematics (3 hours) Choose one course from the list below.

- Math 11800 Finite Mathematics or
- CIT 12000 Quantitative Analysis I or
- Math STAT 11300 Statistics and Society or
- Stat 30100 Elementary Statistical Methods or
- IET 15000 Quant Meth for Tech or
- ECON-E270 Intro Stat Theory Econ & Business or
- CIT 22000 Quantitative Analysis II (P: CIT 12000) or
- Other approved math course

Required Technical/Scientific courses (7 hours)

- *Tech 10200 Discovering Technology or ENGR 195 Introduction to the Engineering Professions (1 cr) (May be waived for transfer students.)
- *CIT 10600 Using a Personal Computer or CIT 11200 Information Technology Fundamentals
- *CIT 21200 Web Site Design

Selected Technical/Scientific courses (24 hours)

An advisor needs to approve the student’s grouping of these technical/scientific courses.

If a student is majoring in a scientific/technical area, courses for that major can also count toward this core area for a TCM BS.

Students not majoring in a scientific/technical area may wish to earn a minor or certificate in one technical/scientific area. Technical/scientific certificates and minors that students could earn include but are not limited to the following:

- **Technology Certificate**: Computer Technology Applications, Construction Management, Web Development, Motorsports Engineering, Network Security
- **School of Science Certificate**: Applied Computer Science
- **School of Informatics Certificate**: Informatics
- **School of Engineering and Technology Minors**: Computer Technology, Digital Electronics Technology, Electrical Engineering Technology, Computer Graphics Technology, Interior Design Technology
- **School of Informatics Minor**: Informatics
- **School of Science Minors**: Biology, Chemistry, Computer and Information Science, Applied Computer Science, Geology, Forensic Science, Physics, Psychology

Choose eight related courses relevant to student’s interests from Architectural Technology, Biology (H), Chemistry (H), Computer Graphics Technology, Computer and Information Technology, Computer Science, Informatics, Biomedical Engineering, Biomedical Engineering Technology, Computer Engineering, Computer Engineering Technology, Electrical Engineering, Electrical Engineering Technology, Interdisciplinary Engineering, Mechanical Engineering, Mechanical Engineering Technology, Motorsports Engineering, Music Technology, or Physics.

Possible technical/scientific courses include but are not limited to:

- CGT 10200 Graphic PC Basics
- CGT 11100 Designing for Visualization & Communication
- CGT 11200 Sketching for Visualization & Communication
- CGT 11600 Geometric Modeling for Visualization & Communication
- CGT 11700 Illustrations for Visualization & Communication
- CGT 35100 Multimedia Authoring or INFO N285 Interactive Design (U)
- CGT 35600 Dynamic Content Development I or INFO N315 Online Document Development
- CGT 44400 Digital Effects or INFO N557 Digital Effects
- CGT 21600 Vector Imaging for Computer Graphics or INFO N200 Desktop Tools for Digital Media
- CGT 21100 Raster Imaging for Computer Graphics or INFO N102 Digital Media Imaging
- CGT 11100 Design for Visualization and Communication or INFO N201 Design Issues in Digital Media
- CGT 34600 Video I or INFO N253 Introduction to Digital Video
- CIT 20600 Advance Computer Applications
- CIT 21400 Introduction to Data Management
- CIT 31200 Advanced Web Site Design
- CIT 34600 Desktop Publishing Applications
- COMM M210 Media Message Design (U)
- COMM M220 Applied Media Aesthetics I
COMM M221 Applied Media Aesthetics II
COMM M290 Video Production Workshop P: M221
CSCI N 207 Data Analysis Using Spreadsheets
INFO 1101 Introduction to Informatics (4 cr.)
INFO 1270 Introduction to HCI Principles and Practices (U)
INFO 1275 Introduction to HCI Theory (U)
INFO 1300 Human Computer Interaction (U)
MUS-M 110 Special Topics in Music for Non-Music Majors: Music and Computers
MUS-Z 317 Computer Music Composition I or INFO N256 Digital Composition
MUS-Z 318 Computer Music Composition II
MUS-Z 320 Special Topics in Music (Variable Title)
  Foundations of Music Production
  Website Design for Musicians
  Digital Sound Design for Multimedia P: Consent of instructor.
  Podcast Music Techniques P: Department consent required.
STAT 11300 Statistics and Society or STAT 30100 Elementary Statistical Methods or IET 15000 Quant Meth for Tech or ECON-E 270 Intro Statistical Theory Econ & Business or CIT 23000 Quantitative Analysis II if one of these courses was not taken for the Mathematics requirement.

Science/Technology & Mathematics Hours: 34

Organizational/Cultural Dynamics Core Area (12 hours)

Required course (3 hours)

*OLS 37100 Project Management or IET 36400 Total Quality Control (3 cr.)

Students can also earn one or more of the following certificates in Organizational Leadership and Supervision: Human Resource Management, International Leadership, Leadership Studies.

Choose three courses (9 cr. total) from:

OLS 25200 Human Behavior in Organizations
OLS 26300 Ethical Decisions in Leadership
OLS 27400 Supervisory Management
OLS 32700 Leadership for a Global Workforce (I)
OLS 32800 Principles of International Management (I)
OLS 38500 Leadership for Quality and Productivity
WLAC F350 Introduction to Translation Studies (I)
WLAC F450 Computers in Translation (I)
INFO N250 Team Building in Technology
BME 40400 Ethics for Biomedical Engineering
ME 40100 or ECE 40100 Engineering Ethics and Professionalism (1 cr.)
PSY B358 Introduction to Industrial/Organizational Psychology
PSY B366 Concepts and Applications of Organizational Psychology
PSY B368 Concepts and Applications in Personnel Psychology

(Students can substitute approved courses for those listed above.)

Organizational/Cultural Hours: 12

Humanities, Languages, and Social Sciences Core Area (21 hours)

At least one-half of courses in this area will be at the 300 level or above. Courses from this area taken to fulfill the Technical Communication core or the Organizational/Cultural core cannot also count toward fulfilling this core.

Required courses (6 hours)

*TCM 39000 Technology in Popular Culture (3 cr.) (number under approval)
*Eng W-412 Technology and Literacy (3 cr.)

Choose six courses from: (15 hours)
Anthropology / Art (non-studio) / Communication Studies / English / Folklore / World Languages and Cultures (l) (students pursuing the International emphasis are encouraged to complete extensive work in a foreign language) / Geography / Music / History / Philosophy / Political Science / Psychology / Religious Studies / Sociology (l)

Courses that fulfill this requirement include but are not limited to:

- ART 2100 History of Architecture
- COMM M150 Mass Media and Contemporary Society
- COMM M215 Media Literacy
- ENG -W 210 Literacy and Public Life
- ENG -W 310 Language and the Study of Writing
- ENG -W 313 The Art of Fact: Writing Nonfiction Prose
- ENG -W 366 Written Englishes: Living Cultural Realities
- INFO I202 Social Informatics
- INFO I310 Multi-media Arts: History, Criticism, Technology
- INFO N100 Foundations of New Media
- INFO N311 Digital Paradigm Shift: Effects in International Cultures and Society (l)
- INFO N410 History and Theory of Digital Media
- MUS-L 418 Psychology of Music P: Consent of instructor.
- MUS-Z 111 Introduction to Music Theory
- MUS-Z 315 Music for Film
- MUS-Z 320 Special Topics in Music (Variable Titles)
- Global Music Journey (l)
- POLS-Y 382 Globalization (l)

Humanities, Languages, and Social Sciences Hours: 21

Total Credit Hours: 120

Field experience, etc. As noted in the first of these core areas, students will be required to complete one, 3-credit-hour internship (TCM 4200 or equivalent) near the end of this degree program. Many other courses will offer experiential research and learning opportunities in keeping with the campus Research, International, Service-learning, and Experiential learning (RISE) initiative.

Courses required for the degree that are taught outside of Technical Communication are open to all IUPUI students on a space-available basis, assuming they meet course entry requirements, such as placement testing for English and Mathematics.

b. Sample curriculum

This degree program will allow students to complete the entire degree in three years by taking summer classes, as indicated in the first plan of study below. Many students may be preparing for career changes in mid-life, so this three-year plan will allow them to move through the degree efficiently and advance their career goals in a timely manner.

The option to complete the degree in four years is also available to students, as indicated in the second plan of study included below.

(As noted in section 2.c, many students will elect to pursue this degree on a part-time basis; their plans of study will be customized to fit their unique circumstances but will probably follow a similar sequence to those outlined below.)

**Purdue School of Engineering and Technology – IUPUI**

Sample *Three-Year Plan of Study (with summers) for Bachelor of Science Degree in Technical Communication*

* Indicates a required course/area

**FIRST YEAR FALL SEMESTER (16 HOURS)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Date</th>
<th>Grade</th>
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<tbody>
<tr>
<td><em>ENG W131 Elementary Composition I</em></td>
<td>3</td>
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<tr>
<td><em>COMM R110 Fundamentals of Speech Communication</em></td>
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<tr>
<td><em>CIT 10600 Using a Personal Computer or CIT 11200 Information Technology Fundamentals</em></td>
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<tr>
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**FIRST YEAR SPRING SEMESTER** (15-18 HOURS)

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<td>*TCM 2xxxx Tools for Technical Communication</td>
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<td>* Math 11800 Finite Mathematics or</td>
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<tr>
<td>CIT 12000 Quantitative Analysis I or</td>
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<td>ECON-E270 Intro Stat Theory Econ &amp; Business or</td>
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<td>CIT 22000 Quantitative Analysis II (P: CIT 12000) or</td>
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**FIRST YEAR SUMMER I & II** (6-9 HOURS)

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**SECOND YEAR FALL SEMESTER** (15-18 HOURS)

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<tr>
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<td>TCM 31000 Technical and Scientific Editing</td>
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<td>*TCM 25000 Career Planning in Engineering and Technology</td>
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<tr>
<td>*CIT 21200 Web Site Design</td>
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<th>Course</th>
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<tbody>
<tr>
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<tr>
<td>*TCM 45000 Research Approaches for Technical &amp; Professional Communication</td>
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<tr>
<td>*OLS 37100 Project Management or</td>
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<th>Course</th>
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<tr>
<td>*TCM 42500 Managing Document Quality</td>
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<td>*TCM 42000 Field Experience</td>
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<tr>
<td>*TCM 39000 Technology in Popular Culture</td>
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12
| Technical/Scientific Core                           | 3 |
| Technical Communication Core Elective             | 3 |
| Optional Elective                                 | 3 |

**THIRD YEAR SPRING SEMESTER (15-16 HOURS)**

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<th>Course</th>
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<tbody>
<tr>
<td>TCM 4xxxx Technical Communication Capstone</td>
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<td>TCM 43500 Portfolio Preparation</td>
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<td>*Eng W-412 Technology and Literacy</td>
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**Purdue School of Engineering and Technology – IUPUI**

**Sample Four-Year Plan of Study for**

**Bachelor of Science Degree in Technical Communication**

**FIRST YEAR FALL SEMESTER (16 HOURS)**

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<tbody>
<tr>
<td>*ENG W131 Elementary Composition I</td>
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<tr>
<td>*TCM 21000 Principles and Practices of Technical Communication</td>
<td>3</td>
<td></td>
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<tr>
<td>*Tech 102</td>
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**SECOND YEAR FALL SEMESTER (16 HOURS)**

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<tr>
<td>*Eng W-365 Theory and Practice of Editing</td>
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<td>*TCM 25000 Career Planning in Engineering and Technology</td>
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<tr>
<td>*CIT 21200 Web Site Design</td>
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<tr>
<td>Technical Communication Core Elective</td>
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</table>
### Second Year Spring Semester (15 Hours)

<table>
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<th>Course</th>
<th>Hours</th>
<th>Date</th>
<th>Grade</th>
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<tbody>
<tr>
<td>*TCM 35000 Visual Elements of Technical Documents</td>
<td>3</td>
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<tr>
<td>*OLS 37100 Project Management or IET 36400 Total Quality Control</td>
<td>3</td>
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### Third Year Fall Semester (15 Hours)

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<th>Hours</th>
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<tbody>
<tr>
<td>*TCM 42500 Managing Document Quality</td>
<td>3</td>
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<td>*TCM 39000 Technology in Popular Culture</td>
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### Third Year Spring Semester (15 Hours)

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### Fourth Year Fall Semester (15 Hours)

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<tr>
<td>*TCM 42000 Field Experience (P: TCM 25000)</td>
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<td>*Eng W-412 Technology and Literacy</td>
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### Fourth Year Spring Semester (13 Hours)

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<tr>
<td>Elective</td>
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| Total credit hours for the TCM BS degree   | 120   |      |       |

### Existing and Proposed Courses

All courses listed above already exist and are offered regularly except for:

- TCM 2xxxx Tools for Technical Communication (3 cr.)
- TCM 3xxxx International Dynamics in Technical Communication (3 cr.)
- TCM 4xxxx Usability in Technical Communication (3 cr.)
- TCM 4xxxx Creating User Documentation (3 cr.)
- TCM 4xxxx Technical Communication Capstone (3 cr.)

The TCM Program is in the process of developing these courses. Eventually, the Program may also develop courses in Technical Grant Writing and Administration, Contemporary Issues in Technical Communication, Social or Multi-Media in Technical Communication, Technical Editing, Technical Communication for a Global Workforce, Technical Training, and/or in Technical Communication Marketing if the demand for such courses emerges.
d. Required courses delivered by another institution
Not applicable.

e. Relationship of the proposed BS to the current Technical Communication (TCM) Certificate, IUPUI

For over a decade, the current TCM Certificate (19 cr.) has served students who wished to earn a credential in technical communication, while earning a Bachelor’s degree in another discipline or after having earned a Bachelor’s degree. The TCM Program plans to continue to offer the TCM Certificate while also offering a major for those interested in a more in-depth education in the field. If a student begins working toward the TCM Certificate and chooses to switch to the major, the courses already earned will apply to the major as appropriate. Conversely, if the student begins in the TCM Major but elects not to complete it, a TCM Certificate may be awarded if the student has met all its requirements.

4. Form of Recognition

a. Degree to be awarded

Upon successful completion of the requirements, students will be awarded the Bachelor of Science in Technical Communication.

b. CIP Code

09.0908

c. Program, organizational, and site information on diploma

Bachelor of Science in Technical Communication
Purdue University
Awarded at Indiana University-Purdue University Indianapolis
Indianapolis, Indiana

5. Program Faculty and Administrators

a. Faculty and administrators involved with the program

Charles Bantz, Ph.D., Chancellor, Indiana University-Purdue University Indianapolis

Uday Sukhatme, Ph.D., Executive Vice Chancellor and Dean of Faculties, Indiana University-Purdue University Indianapolis

David Russomanno, Ph.D., Dean, Purdue School of Engineering and Technology, Indiana University-Purdue University Indianapolis

Stephen Hundley, Ph.D., Associate Dean for Academic Programs, Purdue School of Engineering and Technology, Indiana University-Purdue University Indianapolis

Mark Bannatyne, Ph.D., Chair, Department of Design and Communication Technology, Purdue School of Engineering and Technology, Indiana University-Purdue University Indianapolis

Wanda Worley, Ph.D., Associate Professor of Technical Communication, Director of the TCM Program, Department of Design and Communication Technology, Purdue School of Engineering and Technology, Indiana University-Purdue University Indianapolis

Marjorie Rush Howde, Ph.D., Associate Professor of Technical Communication, Adjunct Associate Professor of English, Coordinator of the Technical Communication Certificate, Department of Design and Communication Technology, Purdue School of Engineering and Technology, Indiana University-Purdue University Indianapolis
Corinne Renguette, Ph.D., Visiting Assistant Professor of Technical Communication, Department of Design and Communication Technology, Purdue School of Engineering and Technology, Indiana University-Purdue University Indianapolis

b. New Faculty members required to implement the program

Initially, we will offer the program with existing full-time faculty members and selected part-time faculty members. If the new degree program meets its enrollment goals (approximately 30 majors) within the first three years, one new faculty member will be required with expertise in usability and technology for technical communicators. Expertise in grant writing would also be useful. This person will teach a standard load for a technology tenure-line person, two courses/semester during the first two years and three courses/semester in subsequent years. This person may also teach "service" courses in TCM as needed. Finally, this person could work with developing future graduate courses in TCM.

As enrollment continues to increase, additional full-time faculty members will be hired. Ideally, for every increase in 30 students pursuing the major, one new additional full-time faculty member will be required. Tenure-line people responsible for research, teaching, and service would be the best option, but there may be a need for Clinical and/or Lecturer appointments as well.

6. Needed Learning Resources

a. Availability of equipment and facilities that directly support the program

The Purdue School of Engineering and Technology and the University Information Technology Services already provide many of the technical resources that students and faculty members will need. In addition, the Design and Communication Technology Department is seeking to renovate classroom space to support active, collaborative, problem-based learning in technical communication courses and other areas. (Funding for that renovation will come from a variety of sources, but we are not including a request for such funding in this proposal.)

Majors will be asked to provide their own laptop computers and the relevant software that is already available to students for free or at a nominal cost.

Library resources are also up-to-date and well developed in ways that will meet the needs of students within the degree program.

Initially, this new degree will be able to use existing resources; additional ones may be needed as the program grows, but those needs will be relatively modest.

b. Potential unmet resources that will prohibit the offering of a high quality program

Although current courses, facilities, and faculty are sufficient to offer a high quality program, future incorporation of additional courses and additional faculty to teach them will allow students to develop their abilities more fully.

7. Other Program Strengths

a. Features defining the character of the proposed program that make it distinctive:

Blending understandings of 1) technical communication, 2) science/technology/engineering, 3) organizational/cultural dynamics, and 4) general education, as discussed above, will contribute to a high quality, well-rounded educational experience that will prepare students for a variety of career options. The TCM Program, located as it is within the Purdue School of Engineering and Technology in Indianapolis, is uniquely situated to bring together these four strands of study, using resources already existing on campus. Interdisciplinary opportunities will enhance the educational experience.

For about three decades, the TCM Program within the Purdue School of Engineering and Technology in Indianapolis has offered (and will continue to offer) service courses, teaching technical communication skills to technical and engineering majors and other interested students. In the last decade, the Program has begun to offer courses designed for students, especially those working toward the TCM Certificate, who wish to become technical communicators. The
The proposed BS in Technical Communication will provide a richer educational experience for technical communicators than the Certificate program is able to offer with its limited number of 19 credit hours.

Being located in Indiana's urban center will also provide students with multiple opportunities for learning outside of the classroom. The TCM BS will offer students the local advantages including being located in a large urban area, many life sciences and technology organizations, and a desirable location with a relatively low cost of living. Regional opportunities include community-based service learning and experiential learning related to courses, research about technical communication, and internship possibilities.

b. Anticipated collaborative arrangements with other parties:

The technical strand of this degree can allow students to earn a minor or certificate in one technical field that will enrich their experiences as technical communicators. Many well-established programs in the Purdue School of Engineering and Technology will provide students with this valuable education. In addition, students may wish to earn minors in other schools on campus that offer technical or scientific emphases.

Within the region, multiple opportunities exist for TCM to collaborate with corporate entities in meeting their continuing needs for well-educated technical communicators.

C. Program Rationale

1. Institutional factors

a. Program's compatibility with the institution's mission

The proposed TCM BS will aid in IUPUI's mission to "advance the State of Indiana and the intellectual growth of its citizens to the highest levels nationally and internationally through research and creative activity, teaching and learning, and civic engagement." The degree promises to "promotes the educational, cultural, and economic development of central Indiana and beyond through innovative collaborations and external partnerships" through the means discussed above and in subsequent sections of this proposal. (http://www.iupui.edu/about/core.html)

The proposed degree in Technical Communication is compatible with the campus mission in that it will prepare students for the diverse and ever-changing field of technical communication and related areas, opening a wide variety of careers to graduates. In addition, with its broad perspectives, the degree will prepare student to be engaged citizens of the region. The degree will also prepare students for graduate opportunities on the IUPUI campus as well as at other universities. Because the proposed degree integrates understandings of technology and understandings of communication, it provides rich opportunities for cross-disciplinary intellectual undertakings.

b. Planning process that has resulted in the development of this new program

In 2010, members of the TCM Program's Industrial Advisory Board participated in revising the existing undergraduate TCM certificate. During this process, participants realized that the Certificate alone was not sufficient to provide students with a broad range of the knowledge, skills, and proficiencies that they would need as technical communication professionals. They urged the TCM program to look into offering a minor, major, and a graduate degree. (The current proposal addresses only the major, but minor and graduate offerings in TCM will be explored in due time.)

Subsequent conversations with several stakeholders indicated that the need for a BS in TCM was greater than the need for a BA in technical communication or technical writing because of the technical, scientific, and mathematical skills that graduates would need to develop. The TCM Industrial Advisory Board has reviewed this proposal, and we have incorporated their suggestions. (For letters of support from several members who are also practitioners in the field, see Appendix 2.)

In addition to considering ideas from our Advisory Board, we have sought responses from the Dean of Purdue's College of Liberal Arts (W. Lafayette) and from the Chair and the Director of Professional Writing in Purdue's English Department, from the Dean of Purdue's College of Technology, from the Chair and the Director of Writing in the English Department as well the Chair of the Communication Studies Department of IUPUI School's of Liberal Arts, and from the Director of Writing in the English Department of Indiana University-Purdue University Fort Wayne. (Their letters of support are included in Appendix 3.)
We plan to submit this major for approval in the fall of 2011 and implement it soon after final approval, probably by the fall semester of 2012. Many of the courses for the degree already exist, so we will not need to develop a significant number of new courses. As enrollment grows, we anticipate hiring additional full-time faculty members as appropriate.

c. Impact on other institutional, research, or service programs of the institution

Students seeking this degree will enrich the Purdue School of Engineering and Technology in that they will focus on the societal aspects of technology, looking at how users learn about technology and how it affects their lives and society in general.

Because the degree is designed to work well as a double major, we anticipate that students from a variety of majors may elect to declare it as a second major. In the past, students earning the TCM Certificate have come primarily from majors in English, Informatics, and a variety of Technology majors, so we anticipate that students in these fields will be attracted to this degree program. In addition, should students begin in one of the fields listed above and discover that their interests lie more in Technical Communication, they should be able to transfer much of their coursework into the new degree program, primarily as a second major.

TCM degree-seeking students may serve on cross-functional student teams, highlighting the importance of technical communication and showing that it involves a specialized skill set. In addition, the required internships will strengthen connections of IUPUI to campus and regional organizations for which the interns work.

Tenure-line faculty members serving this program will conduct research in technical communication, potentially in collaboration with other faculty members within the Purdue School of Engineering and Technology and in other schools on the campus. Although their responsibilities will lie primarily in teaching, they will have opportunity to advance understandings in the field of technical communication through their research endeavors. Because of the nature of technical communication, opportunities for cross-disciplinary collaboration in teaching, research, and civic engagement are abundant.

d. Proposed program’s utilization of existing resources:

In addition to using already existing general education and TCM courses, the proposed program will utilize existing courses, library resources, computer laboratories, and classrooms in the Purdue School of Engineering and Technology. We will also use existing human resources in the form of faculty and staff in the school and on campus. In addition, the TCM Program currently supports the Technical Writing Center, which provides individual assistance on writing projects. We anticipate that TCM BS students will both utilize these resources and provide some of the tutors who offer assistance to others.

Because several of the courses in the major are offered in online or “hybrid” (partially online, partially face-to-face) formats, the degree will place little strain on existing classroom resources on campus. In addition, online courses may appeal to individuals with disabilities, people who work full-time, and/or have other challenges that make it difficult to attend face-to-face classes.

2. Student Demand Enrollment Data and Projections

(See Table 1: Enrollment and Completion Data for more detail.) Given the projections that the demand for employees in technical communication is likely to increase, we can anticipate a healthy enrollment of students in this major. In addition, we anticipate that many students will elect to combine this major with another major, especially a technical scientific one, in order to enhance technical communication skills within a professional career track.

At least three sources of information about trends in student demand for technical communication courses of study indicate the probability of healthy enrollment numbers in the proposed degree program.

First, recent enrollment numbers in the TCM Certificate have increased notably, as indicated in Figure 1. In 2010, enrollment more than doubled over previous years, and as of July 2011, enrollment is on track to meet or possibly exceed 2010 numbers. We anticipate that numbers of enrollees for a BS degree will be similar initially with a steadily increasing trend as the degree program becomes more widely known. (A number of the current Certificate students may
Second, in order to anticipate future enrollment, we considered data from other institutions, as gathered in a survey of institutions across the United States that we conducted in April of 2011. These findings indicated that Technical Communication degrees are an area of growth for higher education across the country. Specifically, as seen in Figure 2, the total numbers in these 11 surveyed programs have steadily increased since 2005. Some of these programs did not exist in 2005, so that fact may affect the trend illustrated below, but each program surveyed reported consistently increasing numbers of majors and graduates within this short time period. (For more information about this survey, see Appendix 4.)

Consistent with the increases in overall enrollments, the numbers of graduates in the surveyed programs has also steadily increased, as indicated in Figure 3.

A third source of data that supports the probability of healthy enrollment in the proposed degree program comes from the research of Lisa Meloncon, an Assistant Professor of Professional and Technical Writing at the University of
Cincinnati. Preliminary results from her national research project indicate that the field of Technical and Professional Communication (TPC) now offers 62 full-fledged, stand-alone degrees in TPC (under of a variety of names). Of those 62 degrees, 28 are BS degrees. The numbers of these undergraduate degrees have grown 110% percent from 2005-2010. Within these 62 programs, the overwhelming majority of programs have up to 100 students. (Personal correspondence.)

According to the results of the aforementioned April 2011 survey, most students declare a technical communication major after having begun in another major, as indicated in Figure 4; we anticipate a similar trend at IUPUI.

![Bar Chart]

Figure 4. Trends in the circumstances from which students in surveyed programs come to a technical communication major.

Because the TCM BS lends itself well to pairing with another degree, several students will be likely to declare TCM as a second major, as has happened in the surveyed programs.

In addition, if students begin in another major and discover that their interests and abilities lie in Technical Communication, they will be able to transfer much of their coursework easily into the new degree program. Because of the ease of transferring already-earned credits into this program, we anticipate that the TCM BS degree may be a means by which students will be retained on the IUPUI campus rather than transferring to another institution or discontinuing their educations.

According to this survey, another good-sized portion of the anticipated majors may consist of people who have been in the workforce and who will enroll specifically to earn the TCM BS, thus enhancing the overall enrollments at IUPUI. This major will probably appeal to a small number of students who declare the major soon after graduating from high school; the curriculum of the degree program is designed to accommodate such students as well as the others who come to it from other situations.

The TCM program currently offers many service courses to a variety of majors in the Purdue School of Engineering and Technology as well as several other IUPUI schools. These service courses will continue, and the new courses we will develop for the TCM BS will be available to students of many majors who wish to improve their knowledge and abilities in technical communication.

3. Transferability

No unusual constraints on transferability out of the program are anticipated. At other Indiana programs that might accept students who transfer out of this program, general requirements such as grade point average, class rank and/or performance on standardized tests will typically apply, but other than these general requirements, we anticipate no constraints on student or credit transfers to those institutions.

Students who wish to transfer to IUPUI will submit their transcripts to be evaluated for appropriate coursework. Relevant course articulation agreements, especially those with Ivy Tech, will be honored.
The School of Engineering and Technology has a long history of articulations with Ivy Tech with 18 program articulations already in place. The TCM Program is in the beginning stages of creating course and degree articulation agreements with Ivy Tech.

4. Access to Graduate and Professional Programs

Requirements for admissions to graduate programs in technical communication and related fields vary, but the broad-ranging nature and the focus on both theory and practice in the TCM BS will prepare our students well for admission to a variety of graduate programs.

Upon completion of a B.S. degree in Technical Communication, students will be well prepared to enter graduate programs that emphasize further study of the theory and practice of technical communication and related fields. Regionally, several opportunities for graduate study exist. For instance, the Communication Studies Department at IUPUI offers a Master’s Degree in Applied Communication and is in the process of creating a Ph.D. degree in that same area. The English Department at Purdue University, West Lafayette offers a master’s degree and a Ph.D. in Rhetoric and Composition with a special area in Professional and Technical Writing. The Illinois Institute of Technology also offers a Master of Science in Technical Communication. Other educational regional and national opportunities are likely to emerge over the years, and the proposed degree will put students at the forefront of that growth.

Across the United States, at least 14 institutions offer Master of Science degrees and at least 12 offer Master of Arts degrees in technical communication, according to the Society for Technical Communication's Academic Database. http://www.stc.org/education/academic-database. (Additional programs may have elected not to list themselves on the STC database.) When our graduates are admitted, these programs will prepare them well for roles as technical communication practitioners/managers or for academic careers conducting research and providing educational experiences to future technical communicators.

According to the Society for Technical Communication's Academic Database, at least the following institutions in the United States offer Master's Degrees in technical communication.

- Bentley University, Massachusetts
- Colorado State University, Colorado
- Drexel University, Pennsylvania
- Illinois Institute of Technology, Illinois
- James Madison University, Virginia
- Mercer University, Georgia
- Miami University, Ohio
- Missouri State University, Missouri
- Montana Tech, Montana
- New Jersey Institute of Technology, New Jersey
- North Carolina State U, North Carolina
- Northeastern University, Massachusetts
- Portland State University, Oregon
- Rensselaer Polytechnic Institute, New York
- Southern Polytechnic Institute, Georgia
- SUNY Institute of Technology, New York
- Towson University, Maryland
- University of Houston-Downtown, Texas
- University of Memphis, Tennessee
- University of Minnesota, Minnesota
- University of Washington, Seattle
- University of Wisconsin-Stout, Wisconsin
- Utah State University, Utah

5. Demand and Employment Factors

We anticipate strong demand for our graduates, especially in Indiana and surrounding states, as technology and life science strengths increase.

The Technical Communication degree is designed to prepare students for a wide variety of careers in technical and scientific communication, including technical communicator, technical editor, documentation specialist, grant writer, information architect, media designer/developer, medical writer/editor, project coordinator, quality/usability assurance specialist, training developer, validation analyst, and/or web designer. Opportunities in these areas are abundant in the region, a condition that will encourage TCM BS graduates to remain in Indiana and use their degrees in beneficial ways.

Furthermore, an individual with a primarily technical position can benefit in general professional practice from earning this degree. Many graduates of the current TCM Certificate note that even if their job titles are not “Technical Writer”
or "Technical Communicator," they employ frequently the communication and other skills (usability, document design, project management) they have learned in the Certificate.

a. Geographic region to be served

Indiana and surrounding states will be served by this proposed degree. Multiple industries have need of technical communicators who are well educated in a broad range of abilities. Locally, many companies employ technical communicators for a variety of functions, as indicated in section 5c below.

b. Review of the literature indicates a growing demand for technical communicators

At least three highly reputable sources have recently indicated that TCM BS graduates are likely to enter careers with expanding prospects and a satisfying level of compensation.

- *The U.S. News and World Report* in 2010 listed technical communication as one of 50 top careers nationally for which growth was projected over the next decade. ([http://money.usnews.com/money/careers/articles/2009/12/28/technical-writer.html](http://money.usnews.com/money/careers/articles/2009/12/28/technical-writer.html))


- The Bureau of Labor Statistics lists the mean annual wage for Technical Communicators nationally at about $65,000 in 2009. (Data for 2010 were not available.) ([http://www.bls.gov/oes/current/oes273042.htm#top](http://www.bls.gov/oes/current/oes273042.htm#top))

c. Potential regional employers

The employers listed below are only a sample of regional organizations that may need well-educated technical communicators. Many currently have a relationship with IUPUI’s Solution Center, a division of the Office of the Vice Chancellor for Research, which is engaged in building community partnerships through research, internships, and business assistance.

<table>
<thead>
<tr>
<th>Employer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Family Insurance</td>
<td>Offers auto, home, life, and business insurance, and many annuity products.</td>
</tr>
<tr>
<td>Audiophile</td>
<td>Provides IP based Z/V systems that integrate technology with sound delivery systems.</td>
</tr>
<tr>
<td>Basic Utility Vehicles Ministry</td>
<td>Develops basic utility vehicles for economically disadvantaged areas in the world. Manufacturing and engineers work in Indianapolis.</td>
</tr>
<tr>
<td>Beckman-Coulter, Inc.</td>
<td>Manufactures biomedical testing systems.</td>
</tr>
<tr>
<td>Blue Bean, LLC</td>
<td>Focuses on RFID solutions, RFID compliance mandates, and simplifying the implementation of RFID technology.</td>
</tr>
<tr>
<td>Brilient, LLC</td>
<td>Develops written content and learning materials for private sector, public sector, and trade associations.</td>
</tr>
<tr>
<td>CTI Group</td>
<td>Provides interactive, online billing, self-care, and mediation communication management solutions globally.</td>
</tr>
<tr>
<td>Cummins, Inc.</td>
<td>Designs, manufactures, distributes, and services engines and related technologies.</td>
</tr>
<tr>
<td>Dawkins, Inc.</td>
<td>Develops technology services for design, storage, and documentation of medical records.</td>
</tr>
<tr>
<td>Delivra</td>
<td>Offers software training, deliverability tools, database management and integration, production services, and technical support.</td>
</tr>
<tr>
<td>E. Practical Solutions</td>
<td>Assists Indiana businesses with using technology to improve marketing.</td>
</tr>
<tr>
<td>e-Tapestry</td>
<td>Provides online fundraising software to charities throughout the world.</td>
</tr>
<tr>
<td>ExactTarget</td>
<td>Supports electronic interactive marketing communication.</td>
</tr>
<tr>
<td>Farm Bureau Insurance</td>
<td>Provides insurance products for auto, life, home, business, and farm, as well as banking and other financial services.</td>
</tr>
<tr>
<td>Government Utilities Technologies Services, Inc.</td>
<td>Provides IT support for government agencies.</td>
</tr>
<tr>
<td>Interactive Intelligence</td>
<td>Provides IT development for a variety of clients.</td>
</tr>
<tr>
<td>Indiana University Health</td>
<td>Improves the health of patients and community through innovation and excellence in care, education, research, and service.</td>
</tr>
</tbody>
</table>
d. Sampling of current employment opportunities

In a recent search of Purdue School of Engineering and Technology’s Career Services database, (although there is currently no category for technical communicators/writers,) several relevant positions were listed in a variety of regional organizations, including:

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Organization, Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Training Specialist</td>
<td>TriMedx, Indianapolis</td>
</tr>
<tr>
<td>Registration Specialist</td>
<td>ChatCha, Carmel</td>
</tr>
<tr>
<td>Graphic Design and Multimedia Coordinator</td>
<td>Alpha Gamma Delta Fraternity</td>
</tr>
<tr>
<td>Web Developer</td>
<td>TechPoint, Indianapolis</td>
</tr>
<tr>
<td>Advertising Associate</td>
<td>Functional Devices, Russiaville</td>
</tr>
<tr>
<td>Graphic and Web Design Intern</td>
<td>Baldwin &amp; Lyons, Indianapolis</td>
</tr>
</tbody>
</table>

A recent search on monster.com turned up nearly 400 requests for technical communicators/writers. Examples include:

<table>
<thead>
<tr>
<th>Job title</th>
<th>Employers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Writer</td>
<td>Pillar Data Systems</td>
</tr>
<tr>
<td>Senior Technical Writer</td>
<td>GSI Commerce Solutions</td>
</tr>
<tr>
<td>Documentation Specialist</td>
<td>Adecco Engineering</td>
</tr>
<tr>
<td>Web Author</td>
<td>Edward Jones</td>
</tr>
<tr>
<td>Technical Writer/Editor</td>
<td>L-3 Stratis</td>
</tr>
<tr>
<td>Researcher/Technical Writer</td>
<td>Aerotech</td>
</tr>
</tbody>
</table>

e. Expert Opinion

In interviews with regional technical communicators and supervisors in the fall of 2010, we learned that the field continues to grow and the demand for technical communicators will continue to increase. Specifically, we learned that the following skills are likely to be important for technical communicators. All interviewees noted that having both strong technical skills and strong communication skills was crucial. The results of these interviews helped to shape the curriculum for the proposed major. (For details about the interviews, see Appendix 5).

Communication Skills: Writing clearly and concisely, editing, planning documents, organizing documents, creating online help, creating technical reference documents, updating/maintaining/ tracking reports, designing visuals, interviewing, communicating effectively with a variety of non-technical audiences/users, training, listening, writing instructions, and writing e-mail messages.

**Workplace Skills:** Managing multiple projects, working with development teams, assessing a new situation and acting on it, working without a great deal of guidance, understanding product and software development cycles, knowing how to reach colleagues, and understanding socio-cultural barriers.

In addition, technical communication skills will be important for graduates who earn degrees in other fields. For instance, according to Mandy Redmond, a local professional in Quality Assurance, if a graduate goes into quality/regulatory-related jobs that require technical communication skills, they could have titles such as the following: Quality Assurance Principal, Quality Assurance Analyst, Quality Operations Investigation Supervisor, Quality Auditor, Regulatory Compliance Specialist, or Regulatory Compliance Lead. (For additional information, see her letter of support in the Appendix 2.)

6. Regional, State, and National Factors

   a. Comparable programs in the state or region

Within the State of Indiana, no other Bachelor of Science degree in Technical Communication is offered. Purdue University, West Lafayette, offers a BA in Professional Writing through the English Department but does not offer a BS. Indiana Purdue Fort Wayne and the University of Indianapolis offer only Professional Writing Minors. The nearest school offering a BS in technical communication is the Illinois Institute of Technology, in Chicago. Another regional institution, Miami University of Ohio, offers an undergraduate BA, not a BS.

The proposed degree's scientific/technical focus will be the first of its kind in Indiana. It will appeal to students who are already living and working in Indiana who may not wish to relocate or travel out-of-state to further their educations. Employers who offer tuition compensation would be likely to prefer in-state tuition rates to out-of-state rates, as well as the convenience of a local institution. Appealing to in-state students will make it more likely that they will remain in Indiana and use their degrees to support progress in the state.

In addition, students from out of state may also find this course of study appealing, given that few regional institutions offer a BS in technical communication.

   b. External agencies

Currently, technical communication as a field is not under the guidance of external accrediting agencies. However, the national Council for Programs in Technical and Scientific Communication does provide resources for programs to use in evaluating themselves for a variety of purposes. We anticipate using those resources at regular intervals in order to improve the degree program.

D. Program Implementation and Evaluation

1. Program Implementation

Upon approval of this proposal, ideally by the fall semester of 2012, we will work to recruit prospective students from the Indiana and surrounding states, specifically targeting people who have workplace experience and who would like to earn a BS in TCM in order to enhance their career prospects. In addition, we will recruit from existing IUPUI students who are interested in a double major or a change of major. Doing so will enhance retention at IUPUI.

As students begin the curriculum, the TCM Program will offer and develop courses as appropriate in order to enable students to make satisfactory progress through the degree program. If the program is implemented in the fall of 2012, we anticipate the first graduates in the summer of 2015 (for those completing the degree in three years) or the spring of 2016 (for those completing the degree in four years.)

2. Program Evaluation
IUPUI’s Principles of Undergraduate Learning will guide the evaluating of student learning outcomes for the BS in Technical Communication. (See Appendix 6 for details of those outcomes and the multiple means by which they will be assessed within the proposed program.)

In addition, the TCM Program will collaborate with the Purdue School of Engineering and Technology’s Assessment Committee in designing, carrying out, and analyzing assessment practices. As with other degree programs within the school, assessment of the TCM program will have the following components: (1) assessment of student learning through evidence collected for the measurable learning outcomes developed to meet the IUPUI’s Principles of Undergraduate Learning, (2) assessment of employer satisfaction using both surveys and focus groups, (3) assessment of alumni satisfaction through feedback using a process similar to the process for employer feedback, and (4) assessment of the program using matriculation rates, graduation rates, employment and graduate study placement rates, and advancements. Information gathered through the assessment process will be used to help determine the effectiveness of the program in meeting its intended learning outcomes and to guide adjustments to help with continuous programmatic improvement.

a. Quality and Efficiency

Within the school setting, we will conduct regular evaluations that will include systematic institutional assessment data including enrollment figures, retention rates, minority student participation, and academic progress. Faculty effectiveness, achievement, awards, activities, and teaching ability will be reviewed according to standard campus guidelines. Students will assess the program on an ongoing basis through course evaluations, advisee questionnaires, and interviews.

b. Appropriateness

Qualitative and quantitative data will be used to modify or extend the program’s offerings. Program faculty will employ an assessment model to evaluate the strengths and weaknesses of the degree program.

c. Availability of Similar Programs

As indicated above, similar programs are not available in Indiana. However, the TCM Program will regularly check to see if similar programs have been developed and to see if mutually beneficial collaborative efforts can be established.

d. Personal and Social Utility

Technical communication promises to be more and more necessary as technology becomes more integrated into the social fabric of ordinary lives. The program will continually seek ways to assess how well the curriculum meets these changing needs. In many of the courses, students will have opportunities for research, international perspectives, service learning, and experiential learning, thus fulfilling the goals of the RISE initiative on the IUPUI campus.

e. Student Demand

Figures from enrollment data will indicate the trends of student demand for the educational opportunities offered by the TCM BS program. The program will monitor enrollment and retention rates that will indicate evolving student demand and satisfaction levels.

f. Student Access

Continued support of campus supplemental educational programs, study and time management skills training, and specific tutoring opportunities at the departmental level will be appropriate measures for assuring that students enjoy sufficient access to the TCM BS program.

In addition, offering a variety of off-campus, online, or hybrid courses will enhance access to students, especially those with conditions that may hinder them from participating in traditional face-to-face courses. Finally, we will work with Adaptive Educational Services to ensure access to our courses for all students.

g. Flexibility of Program Design
The degree program will monitor and react to shifting market trends and employment opportunities within technical communication. The degree program will also explore ways to use evolving technologies to meet these fluctuations.

h. Market Demand

Short-term assessment of immediate market demand for Technical Communication graduates will come through continuing local job tracking and updating of the program's current job listings. Long-term market trends will be gleaned yearly from the National Bureau of Labor Statistics report on occupations as well as through networking with local professionals and relevant industries.

i. Inter-institutional and Inter-departmental Cooperation

The amount and frequency of campus-wide service courses offered by the program will provide indications as to the relevance of such offerings. Involvement of faculty members in school and university committees, student organizations, and other service activities will also be monitored to assure exemplary involvement and cooperation at the school and university levels. Specifically, we envision working with IUPUI colleagues in Informatics, Communication Studies, English, Organizational Leadership and Supervision, Engineering, and Technology. We also anticipate fruitful future collaborations with faculty members at Purdue University West Lafayette and Indiana-Purdue Fort Wayne.

j. Flexibility of Providing Instruction

We plan to offer a variety of online, hybrid, and off-site TCM courses in an effort to attract students who may not be able to complete courses in traditional face-to-face environments on campus.

A comprehensive pool of qualified and available adjunct, part-time faculty members who teach a wide diversity of Technical Communication courses will also provide flexibility. The TCM Program intends to continue supporting part-time faculty members to attend and utilize professional development resources offered through IUPUI's Center for Teaching and Learning and other venues as appropriate. We will continually assess these options in a quest to provide ongoing improvements in all aspects of the degree program.
E. Tabular Financial Information

Based on input from TCM Faculty members, Steve Kuecher, Associate Vice President, University Regional Affairs, Planning, and Policy, Indiana University, developed this tabular information.

The figures are based on the assumption that 15 students will enter the program each year. Based on the survey results mentioned earlier in this proposal, we assume 40% would be “new” and 60% “transfer”. Current enrollment of technology students at IUPUI shows about 8% are nonresident, so we used that ratio for estimating the numbers of new students. Some of the new students are assumed to be on the three-year track, so we anticipate a few graduates at the end of the third year. The transfer students we assumed to be part-time, entering the degree program from other majors at IUPUI after working on another degree for two years or so. (The proportions of transfers were based on typical numbers from the students within the School of Engineering and Technology. At this time, even approximate proportions are not predictable.) These simplifying assumptions allow us to reach program maturity within the five-year projection window.

Because we have new students, we will have new income associated with them in the form of student fees. (State formulas are in development, but we assume there may be funding for incremental growth in numbers of successfully completed credit hours or degrees or some combination thereof). We allocated these new revenues primarily to new faculty, based on the credit hours generated by the new students. The faculty would not all be in the School of E&T, because some of the new credit hours will require instructional resources to be added to other schools as students take credit hours in their courses.

An appropriate level of travel, recruiting, and “supplies and equipment" would be associated with the new degree as well, as indicated in the following tables.

CIP Code 09.0908
<table>
<thead>
<tr>
<th>A. Program Credit Hours Generated</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Existing Courses</td>
<td>339</td>
<td>732</td>
<td>1083</td>
<td>1191</td>
<td>1191</td>
</tr>
<tr>
<td>2. New Courses</td>
<td>45</td>
<td>45</td>
<td>63</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Total</td>
<td>384</td>
<td>777</td>
<td>1146</td>
<td>1281</td>
<td>1281</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Full-time Equivalents (FTEs)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Generated by Full-time Students</td>
<td>8</td>
<td>17</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>2. Generated by Part-time Students</td>
<td>5</td>
<td>9</td>
<td>14</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>26</td>
<td>38</td>
<td>42</td>
<td>43</td>
</tr>
</tbody>
</table>

| 3. On-Campus Transfers           | 5      | 9      | 14     | 18     | 18     |
| 4. Non-to-Campus                 | 8      | 17     | 24     | 24     | 24     |

<table>
<thead>
<tr>
<th>C. Program Majors (Headcounts)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full-time Students</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>2. Part-time Students</td>
<td>9</td>
<td>18</td>
<td>27</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>30</td>
<td>45</td>
<td>54</td>
<td>54</td>
</tr>
</tbody>
</table>

| 3. On-Campus Transfers           | 9      | 18     | 27     | 36     | 36     |
| 4. Non-to-Campus                 | 6      | 12     | 18     | 18     | 18     |
| 5. In-State                      | 14     | 28     | 42     | 51     | 51     |
| 6. Out-of-State                  | 1      | 2      | 3      | 3      | 3      |

| D. Program Completions           | 0      | 0      | 6      | 6      | 15     |
TABLE 2A:
TOTAL DIRECT PROGRAM COSTS AND SOURCES OF PROGRAM REVENUE

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Total Direct Program Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Existing Departmental Faculty Resources</td>
<td>1.2</td>
<td>108,000</td>
<td>2.2</td>
<td>198,000</td>
<td>3.3</td>
</tr>
<tr>
<td>2. Other Existing Resources</td>
<td>22,000</td>
<td>40,000</td>
<td>59,000</td>
<td>79,000</td>
<td>79,000</td>
</tr>
<tr>
<td>3. Incremental Resources (Table 2B)</td>
<td>107,300</td>
<td>222,700</td>
<td>327,300</td>
<td>327,300</td>
<td>327,300</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$237,300</td>
<td>$460,700</td>
<td>$683,300</td>
<td>$802,300</td>
<td>$802,300</td>
</tr>
</tbody>
</table>

B. Sources of Program Revenue

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Reallocation</td>
<td>$130,000</td>
<td>$238,000</td>
<td>$356,000</td>
<td>$475,000</td>
<td>$475,000</td>
</tr>
<tr>
<td>2. New-to-Campus Student Fees</td>
<td>$84,000</td>
<td>$174,300</td>
<td>$256,100</td>
<td>$256,100</td>
<td>$256,100</td>
</tr>
<tr>
<td>3. Other (Non-State)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. New State Appropriations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Enrollment Change Funding</td>
<td>$23,300</td>
<td>$48,800</td>
<td>$71,200</td>
<td>$71,200</td>
<td>$71,200</td>
</tr>
<tr>
<td>b. Other State Funds</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$237,300</td>
<td>$460,700</td>
<td>$683,300</td>
<td>$802,300</td>
<td>$802,300</td>
</tr>
</tbody>
</table>
### TABLE 2B: DETAIL ON INCREMENTAL-OR OUT-OF-POCKET DIRECT PROGRAM COSTS

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FTE</td>
<td>FTE</td>
<td>FTE</td>
<td>FTE</td>
<td>FTE</td>
</tr>
<tr>
<td>1. Personnel Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Faculty</td>
<td>0.8</td>
<td>16,500</td>
<td>1.6</td>
<td>170,400</td>
<td>2.3</td>
</tr>
<tr>
<td>b. Support Staff</td>
<td>0.3</td>
<td>16,800</td>
<td>0.7</td>
<td>33,600</td>
<td>1.0</td>
</tr>
<tr>
<td>c. Graduate Teaching Assistants</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Personnel Services</td>
<td>102,000</td>
<td>20,100</td>
<td>293,300</td>
<td>293,300</td>
<td>293,300</td>
</tr>
<tr>
<td>2. Supplies and Expense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. General Supplies and Expense</td>
<td>3,500</td>
<td>16,100</td>
<td>31,700</td>
<td>31,700</td>
<td>31,700</td>
</tr>
<tr>
<td>b. Recruiting</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>c. Travel</td>
<td>600</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>d. Library Acquisitions</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Supplies and Expense</td>
<td>5,300</td>
<td>18,700</td>
<td>34,000</td>
<td>34,000</td>
<td>34,000</td>
</tr>
<tr>
<td>3. Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. New Equipment Necessary for Program</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>b. Routine Replacement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Equipment</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. Facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. Student Assistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Graduate Fee Scholarships</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>b. Fellowships</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Student Assistance</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Incremental Direct Costs</td>
<td>$107,300</td>
<td>$221,700</td>
<td>$327,300</td>
<td>$327,300</td>
<td>$327,300</td>
</tr>
</tbody>
</table>
## TABLE 3
NEW ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY
27 July 2011

I. Prepared by Institution

<table>
<thead>
<tr>
<th>Enrollment Projections (Headcount)</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment Projections (FTE)</td>
<td>13</td>
<td>26</td>
<td>39</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Degree Completion Projection</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>15</td>
</tr>
</tbody>
</table>

| New State Funds Requested (Actual) | $0 | $0 | $0 | $0 | $0 |
| New State Funds Requested ( Increases) | $0 | $0 | $0 | $0 | $0 |

II. Prepared by Commission for Higher Education

| New State Funds to be Considered for Recommendation (Actual) | $________ | $________ | $________ | $________ | $________ |
| New State Funds to be Considered for Recommendation (Increases) | $________ | $________ | $________ | $________ | $________ |

CHE Code:  
Campus Code:  
County Code:  
Degree Level:  
CIP Code:  

Comment:
Appendix 1—TCM Competencies and Academic Levels Integrated with Outcomes

Developed in Collaboration with the IUPUI TCM Industrial Advisory Board – January 2011

The matrices below list representative Technical Communications competency elements (knowledge, skills, and personal traits) and show the academic levels at which they might be developed in an expanded offering of programs. The columns for the levels anticipated for Certificate and Master's student are included to contrast to the levels expected for students in the BS degree program.

Each outcome describes behaviors that students at each level should be able to demonstrate upon graduation. Course work is appropriately designed to develop the listed knowledge, skills, and personal traits.

A particular element can appear in more than one academic column – the level of knowledge and skills to be demonstrated is typically greater for a more advanced academic program.

Knowledge

Outcome 1 Describe the factors that make technical communication usable and effective.

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand a variety of cultural communication styles</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Understand usability/user-centered design</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Understand style guidelines and standards</td>
<td>Novice</td>
<td>Expert</td>
<td>Leader</td>
</tr>
<tr>
<td>Understand visual design theory</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Understand Metrics, Key Performance Indicators (KPIs), and &quot;Dashboards&quot;</td>
<td>n/a</td>
<td>Novice</td>
<td>Leader</td>
</tr>
<tr>
<td>Understand information architecture</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Understand instructional design principles, especially for adult learners</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Understand ethical issues in technical communication</td>
<td>Proficient</td>
<td>Expert</td>
<td>Leader</td>
</tr>
<tr>
<td>Understand professional culture, etiquette, and practice</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Understand design issues related to accessibility of information (document design, appropriate amounts of information, what makes information easy to find, etc.)</td>
<td>Novice</td>
<td>Expert</td>
<td>Expert</td>
</tr>
<tr>
<td>Understand typical verbal and visual conventions of technical communication</td>
<td>Novice</td>
<td>Proficient</td>
<td>Proficient</td>
</tr>
<tr>
<td>Understand basic technical/scientific/mathematical concepts</td>
<td>Novice</td>
<td>Proficient</td>
<td>Proficient</td>
</tr>
</tbody>
</table>

Outcome 2 Describe the principles underlying the management of processes of creating technical communication products.

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand methodologies incorporating best practices</td>
<td>Novice</td>
<td>Proficient</td>
<td>Leader</td>
</tr>
<tr>
<td>Understand DITA (Darwin Information Typing Architecture)</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Understand document/content life-cycle management</td>
<td>Novice/</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Design and test communication effectiveness</td>
<td>Novice</td>
<td>Proficient</td>
<td>Proficient</td>
</tr>
</tbody>
</table>

Skills

Outcome 3 Explain technical concepts and processes to a variety of audiences

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use computer-mediated communication</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Analyze audiences</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Reuse content in design, writing, and editing</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Lay out pages for paper and electronic media</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Analyze user tasks</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Use graphic elements such as tables, images, charts, and graphs to communicate technical information</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Design visual communication</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Communicate orally</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Develop multimedia technical communication products</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Translate/international/localize technical communication products</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
</tbody>
</table>

Outcome 4 Create technical communication products that fit their situations appropriately.
<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create text appropriate for the audience and situation</td>
<td>Proficient</td>
<td>Expert</td>
<td></td>
</tr>
<tr>
<td>Use computer-mediated communication</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Modularize content</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Lay out pages</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Proofread text</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Edit technical communication products</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Develop electronically-based training</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Index</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Determine communication approaches that fit situations</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Develop and apply publication standards</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
</tbody>
</table>

*Outcome 5* Create visual technical communication appropriate for print, electronic, and face-to-face media.

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reuse content in design, writing, and editing</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Lay out pages</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Edit technical documents</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Design visual communication</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Communicate orally</td>
<td>Proficient</td>
<td>Expert</td>
<td></td>
</tr>
<tr>
<td>Develop electronically-based training</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Develop multimedia communication products (e.g., audio, animation)</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Develop and apply visual standards for technical communication products</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
</tbody>
</table>

*Outcome 6* Conduct research as needed to learn about subject matter, audience, and communication approaches.

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct appropriate primary research using a variety of appropriate approaches</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Conduct appropriate secondary research from a variety of sources</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Analyze the results of research</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Report the results of research</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
</tbody>
</table>

*Outcome 7* Edit written technical communication for style and conformity to standard usage.

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proofread</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Edit for style and clarity of visual, verbal, and interactive elements</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Apply appropriate level of edit for policy, technical accuracy, proprietary information, etc.</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Apply publication standards</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Develop publication standards</td>
<td>n/a</td>
<td>Novice</td>
<td>Proficient</td>
</tr>
</tbody>
</table>

*Outcome 8* Design and test the usability of technical communication products for verbal, visual, and interactive elements.

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze user tasks</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Create and conduct usability studies for technical communication</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Analyze the results of usability studies, quantitatively and qualitatively</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
</tbody>
</table>

*Outcome 9* Employ relevant communication and production technologies that enhance technical communication.

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use technologically-mediated communication</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Develop multimedia technical communication products</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Develop electronically-based training</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Use software to create technical communication products</td>
<td>Novice,</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
</tbody>
</table>

*Outcome 10* Demonstrate abilities to work with supervisors, clients, and peers in collaborative creation of technical communication.
<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan and manage tasks and time</td>
<td>Proficient</td>
<td>Expert</td>
<td>Leader</td>
</tr>
<tr>
<td>Design and manage processes of creating communication products</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Explain reasons for communication decisions</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Manage/facilitate meetings</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Work in teams, especially across functions</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Adapt reports to fit collaborators' /supervisors' needs</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Work with deadlines</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
</tbody>
</table>

**Personal Traits**

*Outcome 11* Demonstrate abilities to plan for and continue professional/career development.

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be committed to continuous learning/learning from experience</td>
<td>Novice</td>
<td>Proficient</td>
<td>Leader</td>
</tr>
<tr>
<td>Engage with other professionals and professional organizations</td>
<td>Novice</td>
<td>Proficient</td>
<td>Leader</td>
</tr>
<tr>
<td>Be committed to professionalism</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Appreciate the role of technical communication</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Communicate the value of technical communication</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Mentor others in the field</td>
<td>n/a</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
</tbody>
</table>

*Outcome 12* Demonstrate abilities to apply knowledge/theory to everyday practice

<table>
<thead>
<tr>
<th>Element</th>
<th>Certif.</th>
<th>BS</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate ethical practices</td>
<td>Proficient</td>
<td>Expert</td>
<td>Leader</td>
</tr>
<tr>
<td>Exercise interpersonal skills and emotional intelligence</td>
<td>Proficient</td>
<td>Expert</td>
<td>Leader</td>
</tr>
<tr>
<td>Be organized</td>
<td>Proficient</td>
<td>Expert</td>
<td>Leader</td>
</tr>
<tr>
<td>Manage time/being deadline driven/multi-tasking</td>
<td>Proficient</td>
<td>Expert</td>
<td>Leader</td>
</tr>
<tr>
<td>Innovate creative solutions to problems/needs</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Be process oriented</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
<tr>
<td>Pay attention to detail</td>
<td>Proficient</td>
<td>Expert</td>
<td>Expert</td>
</tr>
<tr>
<td>Demonstrate curiosity</td>
<td>Proficient</td>
<td>Expert</td>
<td>Leader</td>
</tr>
<tr>
<td>Lead</td>
<td>Novice</td>
<td>Proficient</td>
<td>Expert</td>
</tr>
</tbody>
</table>
Appendix 2 – Letters of Support from Regional Employers and Practitioners

Amanda Cross, Documentation Manager, Exact Target, Indianapolis
Nichole Browning, Technical Communicator, AutoBase, Indianapolis
Dr. Christine Fitzpatrick, Associate Director of the Solution Center, IUPUI
Greg McCormick, Project Management Professional, Owner and Sr. Consultant, Cedar Canyon Consulting, LLC, Ft. Wayne
Amy Perry, Technical Communicator, Retired, Indianapolis
Mandy Redmond, Manager, Site Compliance and Quality Initiatives, Sigma-Tau PharmaSource, Indianapolis
Jessica Suhr, Technical Communicator, Department of Defense, Indianapolis
Elizabeth Wager, Assistant to the Organizational Leadership Program, IUPUI
Indiana Commission for Higher Education  
101 West Ohio Street, Suite 550  
Indianapolis, Indiana 46204-1984

Amanda Cross, Documentation Manager  
ExactTarget  
433 North Capitol Avenue  
Indianapolis, IN 46204

March 21, 2011

Ladies and gentlemen of the Commission;

I am writing this letter today at the request of the IUPUI Department of Design and Communication Technology and as a member of the department’s industry advisory board to share my support for the creation of a Bachelor of Science degree in Technical Communication at IUPUI.

After receiving my Bachelor of Arts in Professional Writing (with an emphasis on Technical Writing) from Purdue University’s West Lafayette campus in 2000, I began a career in software documentation. Since then I have worked as a technical writer for software companies in central Indiana that serve an array of industries: financial services, pharmaceuticals, and now interactive marketing.

Now as the manager of the Product Documentation department at ExactTarget in charge of hiring documentation writers, I see firsthand the need for advanced education opportunities in the field of technical communication. Like all technical fields, technical communication is evolving quickly. Even experienced writers in the field are not always prepared for the rigors of this new environment, and I have found it challenging to fill my positions, which call for a great deal of technical savvy.

For example, when I entered the software documentation field over ten years ago, technical writers were given a completed software product to learn and document. The questions occupying most of their time had to do with the tools they used to create their documentation. Back then, almost anyone could succeed in the career with any kind of background.

Today, technical communicators find themselves deeply involved in every stage of the software development process, well before a solid product is available to experiment with. They are called on to provide expertise in everything from user interface design to database design to international cultures. The proficiency in information delivery tools that used to be the heights to which technical writers aspired are now simply the prerequisites to doing the real job. Technical writers who landed accidentally in the career are now finding themselves outclassed when faced with the more advanced challenges.
Furthermore, I see no reason to believe this trend is going to stop; in fact, it seems likely to me that the local employers' demand for technical communicators who are very well versed in technology as well as larger business concerns will accelerate. Indiana specifically, with its established base of life sciences companies and burgeoning technology sector, may see this demand grow faster than the rest of the country. And with the expanded skillset and integral nature of the role, these jobs will be command higher pay, more job security, and better career paths than their predecessors.

However, currently the educational options for aspiring technical communicators in central Indiana are limited, which is why this is a great time to introduce a Bachelor of Science in this field.

Thank you for your time. Please let me know if I can provide any more information.

Sincerely,

Amanda M. Cross
Documentation Manager
ExactTarget
March 21st, 2011

Department of Design and Communication Technology
School of Engineering and Technology
IUPUI

Re: Support of the Bachelors of Science in Technical Communication program at IUPUI.

Greetings Sir or Madam,

My name is Nichole Browning, I am a Technical Writer at Autobase Inc. and a student within the Technical Communication (TCM) Undergraduate Certificate program. I would like to express my full support for creating a Bachelor of Science Degree in Technical Communication at IUPUI.

There are several reasons to offer a BS in TCM in the Indianapolis area. Currently, there are few areas that offer a Bachelor of Science Degree, and Indianapolis is not one of them. The demand for professionals in the TCM trade is rapidly increasing in the area. Introducing the BS in TCM would allow the student and continuing student, alike, to possess a wider range of knowledge, thus, increasing employment opportunities. Implementing complementary courses would broaden a student’s educational background and would also give the student the option to customize the program course toward their personal career goals.

Throughout my experience in the technical communication field, I have witnessed the role good communication plays within a company. Without a high level of communication between employees of all ranks, break downs within the company could occur on a regular basis. The classes I have taken within the TCM Certificate Program have helped me stand out as a good communicator within my position.

After receiving my Technical Communication Certificate, I would like to obtain a Bachelor Degree in Technical Communication so I may apply for more advanced technical communication positions. I have researched education requirements for advanced technical communication positions in the area and discovered a Bachelor Degree is required. The employment outlook for the next decade and beyond in the Indianapolis area looks promising for those in the Technical Communication profession. With software and hardware companies, and government agencies already expressing a demand for Technical Communication professionals for a wide variety of tasks, the BS in TCM is a necessity.

Earning the Technical Communication Certificate has been a valuable asset to my career. Having the option to earn a BS in TCM, would provide me with an enhanced education, specified toward my ultimate career goal, thus, empowering me to make a greater impact in the Technical Communication field.

Thank you for your time,

Nichole Browning
March 21, 2011

Dr. Marjorie Rush Hovde
Associate Professor of Technical Communication
School of Engineering and Technology
IUPUI
799 W. Michigan Street
Indianapolis, IN 46202-5160

Dear Dr. Hovde:

I am pleased to provide my support for plans to develop a major in Technical Communication, and I am excited about your proposal. My combined professional and academic experiences have given me an excellent vantage point to see the current need for a baccalaureate program in TCM, as well as the future employment prospects for technical communicators in Central Indiana. Indeed, I believe there is strong evidence to support the time is right for this new program at IUPUI.

My academic credentials include a Bachelor of Science in English (Education) and a Master of Arts in English (Rhetoric and Composition) from Ball State University, as well as a doctoral degree in Instructional Systems Technology from Indiana University, Bloomington. I have more than 20 years' experience as a professional technical communicator, including management of a technical communications group within University Information Technology Services (UITS) at Indiana University. Additionally, I have more than 20 years' experience developing and teaching courses in Technical Communication and have also taught courses in Instructional Systems Technology for Indiana University and Media Arts and Science for IUPUI. Presently, as Associate Director for the IUPUI Solution Center, I am a campus leader for experiential learning and internships, as well as community-based research and partnerships. In this role, I observe workforce needs in business, industry, and nonprofit and governmental sectors.

The proposed Bachelor of Science degree program in Technical Communication acknowledges the distinct nature of the discipline of technical communication and responds to a need for technical communication specialists. Technical communication is more than writing with and about technology. Technical communications are designed to be used. They advance innovation, business, and commerce; they support effective human action and interaction. Increasingly, practice in Technical Communication is inquiry-led and evidence-based. Effective technical communication involves application of best practice in the design and delivery of information, drawing upon knowledge in human factors, usability, information design, and memory and cognition. Technical communicators must be able to employ multiple modes of communication as best fit the context and audience, including written text, images, video, audio, and animation. Technical communicators support end users and organizations themselves by providing information required for customer support, quality assurance, new product development, manufacturing, organizational development, and marketing and sales. They are user advocates and translators -- a bridge between the product and the user.
March 21, 2011
Christine Y. Fitzpatrick
Page 2

The Bachelor of Science degree in Technical Communication at IUPUI will prepare graduates with skills and abilities that will be highly valued by employers across and beyond Central Indiana. Excellent communication skills are presently sought by employers, including many technology and life sciences organizations that could benefit now from more technical communicators in the work force. A growing number of employers seeking interns are requesting the kinds of skills and abilities that could be served through a major in Technical Communication. As technical and life science businesses and industries continue to grow and expand in Central Indiana, there will be an increasing number of employment opportunities for new graduates who combine excellent communication skills with knowledge and interest in science and technology and the ability to use multiple literacies and new technologies for communication. IUPUI will be very well positioned to meet this need through a Bachelor of Science degree program in Technical Communication.

I am delighted to support your proposal and look forward to hearing of this new program at IUPUI.

Sincerely yours,

Christine Y. Fitzpatrick, Ed.D.
Associate Director
Date: March 23, 2011

To: Marj Rush Hovde, PhD
Associate Professor of Technical Communication

Re: Development of TCM Major

Dear Marj:

I am writing to express my enthusiastic support for the development of a major area of study in Technical Communications at IUPUI. As a project management professional, I read that between 30 and 80% of all projects conducted in the United States each year fail to achieve their objectives for scope, quality, schedule, and/or budget. I believe that the routine assignment of formally trained TCM professionals to project teams would significantly improve the success rate of all project types.

Allow me to submit a brief sketch of my background before continuing. I have been in the work-force for 40 years now, and have worked as both a "captive employee" and as an independent contractor. I have been a practitioner of technical communications for more than 25 of those years, and like most TCM practitioners, I had no formal training before being given TCM-related assignments. My knowledge and skills have been acquired through on-the-job experience, continual self-study, regular attendance at industry meetings and conferences, and occasional collaboration with others in the same situation. I joined the Society for Technical Communication (STC) in 2001 while employed as an "Information and Curriculum Designer", and was awarded "Sr. Member" status in 2006. I served a one-year term as President of STC's Indiana Chapter, and also served on STC's International task force for the development of a professional certification in technical communications.

My consulting firm offers a number of services, all of which follow project management methodology. Some of my projects have a TCM-related deliverable, such as revising the Operations Manual used by the NCAA to conduct the 2010 Men's Division 1 basketball championships, while others have a non-TMC deliverable, such as the implementation of a document management system at an oil refinery in Texas and the development of a disaster recovery consulting practice at a data services firm here in northeast Indiana. However, ALL of my projects depend on the application of technical communications knowledge and skills to define, design, develop, and deliver project documents and records. You may be interested to know that the Project Management Body of Knowledge (PMBOK Guide®), published by the Project Management Institute (PMI), identifies more than 100 checklists, registers, charts, records, documents, and other information items. My experience has been that project team members are busy managing project activities or performing project tasks, and very few teams have anyone on them whose primary responsibility is the efficient creation and effective communication of useful TCM-like objects. In my opinion, this omission significantly contributes to the widespread lack of project success we see in the workplace.

I am aware that IUPUI has had a TCM Certificate program in place for several years now, and that there are limitations in the scope of topics that can be covered in the credit-hours available. The TCM major will allow presentation of a much broader range of critical topics and provide more extensive preparation, so that TCM graduates will have professional-level competencies to support many technical fields and produce a wider set of information deliverables.
I'll leave you with three observations from my "real world experience":

1. Every project I've been associated with over the past 25 years— including those that are characterized as "business, not technical"— has an important technology component.

2. Project resources (people) who understand technology, and who can use it effectively to accomplish project objectives and support project activities, are very scarce.

3. Few people holding a technical communications position arrived there by design, and almost everyone performing TCM-related tasks has some other area of study as their "real job".

Taken together, I suggest that the supply for well educated technical communicators is low, and the demand for their services is high—and will become much higher in the upcoming years. The "market value" for such people would then appear to be on the increase. In addition, I am not aware of technical communications degrees or major areas of study in this geographic area. So providing the qualified work-force needed meet an increasing business demand appears to be an area of opportunity for IUPUI to exploit.

I applaud your acumen for pursuing the development of the major in TCM, and pledge my continued support for the program. In the meantime, I'll continue to lobby my project sponsors for the assignment of a technical communications resource on all my project teams.

Best regards to you and the TCM Faculty,

Greg McCormick, PMP
Owner and Sr. Consultant,
Cedar Canyon Consulting, LLC

9321 Ottumwa Road, Leo IN 46765
CedarConsulting@earthlink.net
Office (260) 627-9279
Cell (260) 466-0137
April 19, 2011

Marjorie Rush Hovde, Ph.D.
Associate Professor of Technical Communication
799 West Michigan Street, ET324F
Indianapolis, IN 46202

Dear Marj,

A Technical Communication major at IUPUI will benefit the citizens of Indiana, both in particular workplace applications and in imparting a particular approach to communication. The particular approach can be enormously helpful in one's work, no matter what the setting, and in one's personal life.

Regarding workplace applications, technical communicators bring clarity to complex situations, equipment, and software. The more complex these are, the more people make errors—sometimes resulting in injury or death—and waste time. The field of health care is a good example. I know of a firm in a western state that specializes in making navigation of hospitals and other medical facilities quicker and easier for patients. The firm also works to make sure the patient understands the doctor's orders, so is more likely to follow them and avoid relapses. The major will do the following for technical communication graduates:

- by having the status of a full degree, they will be better able to sell themselves to employers
- by the subject matter expertise required by the new degree, they will present their ideas in a better-informed manner
- by the organizational/cultural competencies learned, they will be better able to implement their ideas in a business setting

Moving from specific workplace applications to the more general benefits, I firmly believe that training in technical communication can benefit a person in their professional life, no matter what their occupation or profession, and in their personal life as well.

This is true because technical communication is not just about science and documentation and software and computers. It is about relating to one's audience in a particular situation and tailoring one's communication (medium, form, and content) to that audience, so that the audience members have the information they need and/or respond in the way that one desires. I presume and hope that when technical communication is a major at IUPUI, the field will have more visibility and more status, and as a result more people from outside the field will take the courses and thereby benefit.

If I may speak from my own experience, I have two examples that illustrate this point. The first is my career at Eli Lilly and Company. There, I wrote countless mass emails to users letting them know of events, planned and unplanned, that affected their work. Also I wrote to individual users who had particular questions. In addition, I led many meetings for which I prepared PowerPoint slides. Finally, I
wrote and made phone calls to persons who were above me in the hierarchy. It is irrelevant that I worked in information Technology. I would have needed the same skills had I worked in a non-technical field. The key point is that in each case, I knew that I needed to put myself in the place of the message recipient, knew how to do it, and knew to ask a co-worker for feedback on my message when the topic was especially sensitive and/or complex.

The second example occurred in my personal life. There, I used my audience analysis skills when I was the executor for my mother's estate in 2009 and 2010. I was the go-between between my four siblings and the attorney. None of my family was familiar with estate law. I needed to explain to my siblings what was being done and what to expect, so that they would feel that their portion of the inheritance was being handled ethically, legally, and fairly to all of us. For example, if a check was about to be mailed to them, I would write them to tell them what it was for, how the amount was figured, and approximately when to expect it. I did not want them to experience any surprises, even good ones. The attorney did write letters to us, but these were mostly unhelpful, because they did not explain things in layperson's terms and did not give any background or context. I spent hours anticipating questions, composing emails, creating tables, and in general making sure my siblings felt everything was being handled as it should be. Our stockbroker complimented me several times on how well I kept my siblings informed, saying he has seen too many situations in which serious problems arose because of lack of communication about an estate.

Regardless of the topic, and regardless whether or not it is a technical topic, a successful communicator in a work or personal situation needs to have a particular approach to communication. The technical communication courses at IUPUI impart this approach. A major in technical communication can only increase the potential for all students to benefit thereby.

Kind regards,

Amy Perry
Certificate in Technical Communication, Purdue University, 2002
Retired, Eli Lilly and Company
Former book editor and teacher
106 Chippenham Lane
Fishers, IN 46038
02-August-2011

Indiana Commission for Higher Education
101 West Ohio Street, Suite 550
Indianapolis, IN 46204-1984

RE: IUPUI Proposed Bachelor of Science in Technical Communication

As a current Quality and former Technical Publications manager in the pharmaceutical and medical device industries, I would like to express my strong support for the proposed Bachelor of Science in Technical Communication at Indiana University-Purdue University at Indianapolis.

This program will be especially important to Quality departments in the pharma and medical device industries because it combines two areas of expertise that are required to perform, document and/or oversee quality investigations. When filling any position within my organization, I look specifically for individuals with strong writing and communication skills. It is also equally important that individuals have background in a technical/scientific discipline.

It is somewhat rare to find an entry level applicant that is knowledgeable in both the technical/scientific, as well as writing/communication areas. Applicants usually have a scientific degree and do not have a firm foundation to support the writing/communication requirement of the available positions. The proposed IUPUI Technical Communication program would provide focus in both areas as part of the degree program, thus allowing for better qualified candidates for entry level job opportunities.

I am grateful for the opportunity to voice my support of this program. If I may be of any other assistance, please contact me at (317) 347-2808.

Sincerely,

Mandy Redmond
Manager, Site Compliance and Quality Initiatives
Sigma-Tau PharmaSource, Inc.
3/22/11

To: Indiana Commission for Higher Education
Re: Bachelor of Science degree in Technical Communication

As a graduate of the Technical Communication Certification program, I am writing this letter in support of a Bachelor of Science degree in Technical Communication within Purdue's School of Engineering at IUPUI. I believe this degree is necessary to complement the rapid rate that technology is expanding in every aspect of our lives. As this technology is introduced to us, it will require a variety of documentation to help users, customers, and colleagues acclimate.

Since earning the TCM certificate in 2008, I have performed freelance work as a Technical Writer. I am currently employed as a Technical Writer with the Department of Defense. Within these roles, I realize first-hand how this education in technical communication has helped me create more effective workplace communications. My documentation has improved in every aspect, and I now take into account a variety of factors that previously I would not have considered. These understandings are now ingrained in my skills as a technical communicator and come as second nature. Without this education, my documents may have been understandable, but I believe now they make an impact as well as being useful.

As trends continue to reflect, more technical communicators will be in demand to help explain and communicate information, in various forms, about technological developments. It is apparent that more companies are finding the value in determining a document's usefulness, and technical communicators are trained to conduct usability testing to help guide clear communication.

With no other central Indiana schools offering a BS in Technical Communication, IUPUI would benefit by offering this unique educational opportunity. With recent trends showing that technological companies are choosing central Indiana as their primary location, this degree will prepare its graduates with the necessary and current skills sought by these up-and-coming companies.

Thank you for your consideration,

Jessica Suhre

5128 Norwalda Ave., Indianapolis, IN 46205
April 19, 2011

Indiana University-Purdue University Indianapolis
Department of Design & Communication Technology
709 W. Michigan St., ET 324 F
Indianapolis, IN 46202

Dear Dr. Hovde and Members of IUPUI, IU, Purdue, and IN Higher Education Committees:

I write to provide support for the development of a new baccalaureate degree in Technical Communication (TCM) by IUPUI’s Purdue School of Engineering and Technology. The need for learning which addresses the construction of communication for and within technology has increased exponentially over the past decade; and my recommendation for the approval of this new program arises from a need identified in my former roles as a technical writing instructor (adjunct), former training manager, and now as an adult academic advisor. On a daily basis, I work with adult students who will benefit from a curricula and courses designed to develop the knowledge, skills and competencies for the broad spectrum of technical communication professions. The new B.S. in Technical Communication will provide opportunities and attract learners who see the need for education that meets the unique shifts, leaps, and challenges of creating and understanding effective communication within technology-driven business and industry today.

Computer-mediated work products and technical documentation frequently monitored for quality both internally and externally, resides in almost all organizations today, in particular, STEM industries and medical facilities. These types of organizations have a growing need for well-educated, technology savvy communicators to apply relevant theories and best practices to accurately articulate engineering, technological, or medical processes and procedures. Graduates of a TCM B.S. degree, particularly one housed within an Engineering and Technology School, would be prepared to create, maintain, and develop innovative tools to record, secure, and monitor quality of data and communications.

The increasing demand for students with skills and competencies in technical writing, designing tools to enhance and improve communication within and for new media, and provide new research opportunities to add legitimacy to the discipline of technical communication provides a strong argument for the timing and value of the proposed B.S. in Technical Communication. I fully endorse the approval of the new undergraduate degree program. When I can provide any additional information, please feel free to contact me.

Sincerely,

Elizabeth K. Wager
Adult Program Advisor & Prior Learning Coordinator
Department of Computer Information & Leadership Technology

799 W. Michigan Street Indianapolis, IN 46202 (317) 278 – 0277 www.engr.iupui.edu/clt
Indiana University – Purdue University Indianapolis
Appendix 3 – Letters of Support from Administrators in Regional Academic Institutions

Dr. Stevens Amidon, Director of Writing, Department of English and Linguistics, Indiana University-Purdue University Fort Wayne
Dr. Gary Bertoline, Dean of the College of Technology, Purdue University
Dr. William Blomquist, Dean of the IU School of Liberal Arts, Indiana University-Purdue University Indianapolis
Dr. Stephen Fox, Director of Writing, Department of English, Indiana University-Purdue University Indianapolis
Dr. Nancy Peterson, Chair, Department of English, Purdue University
Dr. Michael Salvo, Director of Technical and Professional Writing, Department of English, Purdue University
Dr. Kristina Hoon Sheeler, Chair of the Department of Communication Studies, IUPUI
Dr. Howard Sypher, Chair, Department of Communication Studies, Purdue University
Dr. Thomas Upton, Chair, Department of English, Indiana University-Purdue University Indianapolis
Dr. Irwin Weiser, Dean of the College of Liberal Arts, Purdue University
18 April 2011

I am writing this letter of support for the proposed BS Degree in Technical Communication at IUPUI.

My experience serving as Director of Writing at IPFW, as well as my earlier occupational history as an Engineer and Technical Communicator in both military and civilian workplaces, gives me a breadth of experience from which I can evaluate this proposal.

As more and more businesses move from typical bureaucratic structures into the project-oriented management structures typical of the high-tech industry, there is a greater and greater need for technical communicators to serve on these teams. As the Bureau of Labor Statistics website notes,

"They [technical communicators] work primarily in information-technology-related industries, coordinating the development and dissemination of technical content for a variety of users; however, a growing number of technical communicators are using technical content to resolve business communications problems in a diversifying number of industries. Included in their products are operating instructions, how-to manuals, assembly instructions, and other documentation needed for online help and by technical support staff, consumers, and other users within the company or industry. Technical writers also develop documentation for computer programs and set up communications systems with consumers to assess customer satisfaction and quality control matters. In addition, they commonly work in engineering, scientific, healthcare, and other areas in which highly specialized material needs to be explained to a diverse audience, often of laypersons."

The Bureau goes on to describe the growth of this profession as more and more experts in subjects such as editing, information flow, usability, and the integration of design graphics with text become needed to work in such project teams.
The IUPUI proposal is very well-designed to serve those needs. It includes a strong core of courses which teaches the conventions and style of technical writing, as well as essential processes such as technical editing, document management, and technical research. It requires both theoretical courses, and practice-based courses, including an internship or field experience. On top of that, it offers area concentrations in the areas of Usability, International Technical Communication, and Healthcare Communication, all of which are critical areas of expertise in our expanding, global economy.

The state of Indiana sorely needs a program like this one. The kind of integrated, focused study of the intersections of technology and communication this program offers cannot be well-served by individual course offerings in technical writing found in other university catalogs, including that of my own institution.

Sincerely,

Dr. Stevens Russell Amidon
Director of Writing, Department of English and Linguistics
Indiana University Purdue University Fort Wayne
July 21, 2011

Marjorie Rush Hovde
IUPUI
799 W. Michigan Street, ET324F
Indianapolis, IN 46202

Dear Marjorie:

I was asked by you to write a letter of support for a proposed new BS degree program titled Technical Communication. You included the full proposal with your request which I reviewed.

I found the proposed BS degree program to thoroughly cover the topic of Technical Communication, as I understand it. The inclusion of requirements for math, science, and technology is a real strength of the proposed degree program. That combination of coursework and experiences will provide graduates with attributes that should be valued by business and industry.

Another strength of the proposal is allowing students to select an area of concentration in technical communications. Students will also focus on one area in technology or science which could lead to a minor or certificate. The combination of a strong foundation in communication, science, technology, and math will prepare graduates with skills valued by business and industry. Overall, the proposed degree program has great merit and should be seriously considered for approval.

Sincerely,

Gary H. Bertoline
Dean
Distinguished Professor of Computer Graphics Technology
October 20, 2011

Marjorie Rush Hovde, PhD
Associate Professor of Technical Communication
Adjunct Associate Professor of English
Coordinator of the TCM Certificate
Acting Associate Chair of Design and Communication Technology

Dear Dr. Hovde:

Thank you for sharing with me the proposal for a Bachelor of Science degree in Technical Communication, to be offered by the Purdue University School of Engineering and Technology at IUPUI. I support the approval of this degree proposal, which is consistent with the mission and development of the Technical Communication program and will add a useful and substantive degree option for undergraduate students at IUPUI.

Sincerely,

William Blomquist
Dean
To: Engineering and Technology Undergraduate Curriculum Committee
From: Steve Fox, Director of Writing, English Department
Date: 22 April 2011
Re: Proposed B.S. in Technical Communication

I am writing in support of the proposed new degree program in Technical Communication. As Director of the Writing and Literacy undergraduate major in the English Department, I have worked with Prof. Rush Hovde over the years. Our Writing and Literacy program is interdisciplinary, much as this proposed degree program is. We have included Technical Communication courses on our lists of courses that our majors can take. We have found that students are increasingly interested in writing as a professional career or as a valuable ability to include as part of other professional career paths.

I expect that this new program will attract students, and we will be happy to see them in some of our writing courses. We appreciate the cross-school links that we have had with Engineering and Technology and will continue to co-operate with Prof. Rush Hovde, Prof. Worley, and other faculty in Technical Communication to provide the best possible opportunities to IUPUI students.
August 12, 2011

Marjorie Rush Hovde, Ph.D.
799 W. Michigan Street, ET324F
Indianapolis, IN 46202

Dear Professor Hovde:

As requested in your email of 7/29/2011, I have reviewed the materials related to the BS degree in Technical Communication proposal for IUPUI, and I am pleased to lend my support.

I agree that preparing undergraduates to meet the needs of an increasingly technologically dependent society is very important, and it is crucial to find ways to communicate effectively. As I see it, the proposed major at IUPUI is a timely complement to the Professional Writing major we have had such success with at Purdue. The Director of our Professional Writing Program, Dr. Michael Salvo, has also indicated his own support for the program.

In closing, let me wish you success in launching this new and timely degree.

Sincerely,

Nancy J. Peterson
Professor and Head
Support for IUPUI’s proposed BS in Technical Communication

Dear Colleagues,

I write in support of the proposed Bachelor of Science in Technical Communication as proposed in the document dated April 2011 titled “Overview of the Proposed BS Degree in Technical Communication (TCM) at IUPUI.” I received a copy of the document from Marjorie R. Hovde, Associate Professor of Technical Communication. This letter has been prepared in response to her request.

First, I agree that effective instruction and preparation in technical communication is an unmet need in Indianapolis and throughout Indiana. Second, I also agree that there will not likely be significant competition between the Indianapolis and West Lafayette campuses. Third, I believe the major as proposed does an effective job of marshalling existing resources at the Indianapolis campus to support a new and innovative major.

At the West Lafayette campus, we have had a major in Professional Writing for many years that includes a concentration in Technical Writing. We have 80-90 majors at any given time, and many of our best students have come from technical and business programs. Students have graduated and started careers in Indiana, the greater Chicago area, and across the country in New York, Boston, Los Angeles, San Francisco, Phoenix, and elsewhere, where they find communication, writing, and research are valued in a variety of old and new economy jobs. Please consider these perennial issues while creating the major:

Plan for students who are changing majors and transferring, particularly internally and from Ivy Tech—
- Articulate 2 and 3 year paths to the BS degree,
- Create a policy for credit transfer to the BS (both from other IUPUI majors and other institutions),
- Prepare advisors with information and processes to effectively guide students, and
- Prepare materials for campus advertising and recruiting.

In the longer term, it is in both programs’ interests to maintain communication, especially strategies for mutual support at two campuses, perhaps including but not limited to—
- Supporting West Lafayette students’ Indianapolis-based internships,
- Creating opportunity for intra-campus community and communication, such as
- Establishing an Indianapolis-based student chapter of Society for Technical Communication, and
- Supporting online classes that can be co-enrolled with students from both campuses.

I see both of these areas as opportunities for future communication and collaboration; neither temper my support for the new degree as proposed. Please keep me informed as the proposal moves ahead.

Sincerely,

Michael J. Salvo, Associate Professor
Director of Professional Writing
August 4, 2011

TO: Marjorie Rush Hovde
FROM: Kristina Horn Shreler, PhD
Associate Professor and Chair
Department of Communication Studies

RE: Proposal for BS in Technical Communication

I have reviewed the proposal for the BS in Technical Communication. In my capacity as Chair of the Department of Communication Studies, I have no objection to the proposal and support it.
Marj:

I would be pleased to respond in an affirmative fashion. We feel the proposed program would be of great interest and value to a number of students and businesses in the state.

Regards.

H Sypher

From: Hovde, Marjorie R. [mailto:mhovde@iupui.edu]
Sent: Thursday, May 31, 2012 3:25 PM
To: Sypher, Howard E
Cc: Bulger, Nancy A.
Subject: Letter of support requested for the proposed IUPUI BS in Technical Communication

Dear Dr. Sypher,

Nancy Bulger of the Purdue Provost's Office suggested that I contact you as Chair of Communication Studies at Purdue to request a letter of support for the proposed IUPUI BS in Technical Communication. I've attached the proposal for your review.

We would like to place this proposal onto the Purdue Board of Trustees agenda for their July meeting, so if we could have your letter by June 15, that will facilitate the process. (A .pdf would work best.) Please let me know if you have questions as you consider this proposal.

Marj Rush Hovde, PhD
Associate Professor of Technical Communication
IUPUI
April 20, 2011

TO: Marj Rush Hovde
FROM: Thomas A. Upton, PhD
       Professor and Chair
       Department of English
RE: Proposal for BS in Technical Communication

I have reviewed the proposal for the BS in Technical Communication; as Chair of the English department I have no objection to the proposal and can support it. It strikes me as a solid addition to the degree options for students at IUPUI.
April 12, 2011

To Whom It May Concern:

I am pleased to write in support of the proposed BS in Technical Communication at IUPUI. I have had the opportunity to review the proposal and find it a well-conceived degree program that offers students the opportunity to develop communication skills that are in wide demand in business and industry in Indiana and far beyond.

Moreover, this major strikes me as an attractive addition to the programs offered in the Purdue School of Engineering and Technology, providing students with the opportunity to learn technical communication in a technically sophisticated environment.

I encourage you to approve this new major and would be happy to respond to any questions about it you might have for me.

Sincerely,

Irwin Weiser

Justin S. Morrill Dean
College of Liberal Arts
Appendix 4 – Information about the April 2011 Survey of Technical Communication Programs

Details about the April 2011 Survey

In the spring of 2011, we asked for responses to the following survey from members of the listservs of the Association of Teachers of Technical Writing and the Council on Programs in Technical and Scientific Communication, both national organizations of academics in technical communication. Responses are included below. (Data from this survey were also explained in Section C.2 of the Proposal.)

1. Which type(s) of Technical Writing/Communication undergraduate degree does your institution offer? (Check all that apply.)
   - Bachelor of Arts
   - Bachelor of Science
   - Other (please specify)

2. In the academic years listed below, what have been the undergraduate full-time-equivalent enrollments of Technical Writing/Communication majors in your program?

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td></td>
</tr>
<tr>
<td>2006-07</td>
<td></td>
</tr>
<tr>
<td>2007-08</td>
<td></td>
</tr>
<tr>
<td>2008-09</td>
<td></td>
</tr>
<tr>
<td>2009-10</td>
<td></td>
</tr>
<tr>
<td>2010-11</td>
<td></td>
</tr>
</tbody>
</table>

3. In the academic years listed below, what have been the numbers of people graduating with the Technical Writing/Communication major?

<table>
<thead>
<tr>
<th>Year</th>
<th>Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td></td>
</tr>
<tr>
<td>2006-07</td>
<td></td>
</tr>
<tr>
<td>2007-08</td>
<td></td>
</tr>
<tr>
<td>2008-09</td>
<td></td>
</tr>
</tbody>
</table>
4. Indicate your best understandings of the situations from which majors come to your Technical Writing/Communication major.

<table>
<thead>
<tr>
<th>Event</th>
<th>Most</th>
<th>Several</th>
<th>Few</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declared major soon after high school graduation</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
</tr>
<tr>
<td>Moved to the major from another major</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
</tr>
<tr>
<td>Added the major as a second major</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
</tr>
<tr>
<td>Recently came from the workforce with no prior bachelor's degree</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
</tr>
<tr>
<td>Recently came from the workforce to pursue an additional bachelor's degree</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
<td>⊘</td>
</tr>
</tbody>
</table>

Other (please specify)

5. Do you have additional comments for us?

---

Survey results

1. Which type(s) of Technical Writing/Communication undergraduate degree does your institution offer? (Check all that apply.)

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Arts</td>
<td>45.5%</td>
<td>5</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>18.2%</td>
<td>2</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>45.5%</td>
<td>5</td>
</tr>
<tr>
<td>Total Respondents</td>
<td></td>
<td>11</td>
</tr>
</tbody>
</table>
Responses: (date & time indicate respondents)
We offer a minor and are moving toward the major. I will offer information in the rest of the survey based on our minor, in the spirit of giving you a variety of information. I don’t have tracking data for the graduates; sorry. 4/14/11 9:30AM
The degree is in English with a specialization in tech writing/comm. 4/13/11 3:10PM
Also a five-course certificate 4/13/11 2:36PM
We have an undergraduate minor in T/P Writing but we could probably recruit enough majors if we wanted to. 4/12/11 9:19AM
English major, with concentration in prof writing 4/8/11 5:10PM

2. In the academic years listed below, what have been the undergraduate full-time-equivalent enrollments of Technical Writing/Communication majors in your program? (Some programs began in 2008, so data from before that time are not recorded.)

<table>
<thead>
<tr>
<th>Response Year</th>
<th>Response Average</th>
<th>Response Total</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>21.30</td>
<td>213</td>
<td>10</td>
</tr>
<tr>
<td>2006-07</td>
<td>23.40</td>
<td>234</td>
<td>10</td>
</tr>
<tr>
<td>2007-08</td>
<td>26.40</td>
<td>264</td>
<td>10</td>
</tr>
<tr>
<td>2008-09</td>
<td>30.45</td>
<td>335</td>
<td>11</td>
</tr>
<tr>
<td>2009-10</td>
<td>34.55</td>
<td>380</td>
<td>11</td>
</tr>
<tr>
<td>2010-11</td>
<td>35.09</td>
<td>386</td>
<td>11</td>
</tr>
</tbody>
</table>

3. In the academic years listed below, what have been the numbers of people graduating with the Technical Writing/Communication major?

<table>
<thead>
<tr>
<th>Response Year</th>
<th>Response Average</th>
<th>Response Total</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>5.20</td>
<td>52</td>
<td>10</td>
</tr>
<tr>
<td>2006-07</td>
<td>6.20</td>
<td>62</td>
<td>10</td>
</tr>
<tr>
<td>2007-08</td>
<td>7.00</td>
<td>70</td>
<td>10</td>
</tr>
<tr>
<td>2008-09</td>
<td>10.82</td>
<td>119</td>
<td>11</td>
</tr>
<tr>
<td>2009-</td>
<td>12.09</td>
<td>133</td>
<td>11</td>
</tr>
<tr>
<td>2010-11 (anticipated)</td>
<td>12.64</td>
<td>139</td>
<td>11</td>
</tr>
</tbody>
</table>

4. Indicate your best understandings of the situations from which majors come to your Technical Writing/Communication major. (Numbers in bold indicate strongest response to each item.)

<table>
<thead>
<tr>
<th>Most</th>
<th>Several</th>
<th>Few</th>
<th>None</th>
<th>Response Count</th>
</tr>
</thead>
</table>

62
Declared major soon after high school graduation
- 0.0% (0)
- 0.0% (0)
- 40.0% (4)
- 70.0% (7)

Moved to the major from another major
- 63.6% (7)
- 18.2% (2)
- 9.1% (1)
- 9.1% (1)

Added the major as a second major
- 0.0% (0)
- 40.0% (4)
- 50.0% (5)
- 10.0% (1)

Recently came from the workforce with no prior bachelor's degree
- 0.0% (0)
- 18.2% (2)
- 63.6% (7)
- 27.3% (3)

Recently came from the workforce to pursue an additional bachelor's degree
- 9.1% (1)
- 18.2% (2)
- 27.3% (3)
- 63.6% (7)

Other (please specify)
- 4

Responses to "Other":
- The minor is just beginning to grow, based on word of mouth and a marketing campaign we have. 4/14/11 9:30AM
- Declared major at start of 3rd year undergraduate 4/13/11 2:40PM
- Most come from either English or SIS 4/12/11 9:19AM
- Community college transfers 4/8/11 3:10PM

5. Do you have additional comments for us?

The issue for us seems to be one of clarifying just what students can do after studying TPW. It's an uphill battle to clarify what we study and what students will learn. My advice would be a strong marketing campaign aimed at clarifying the field and outcomes. 4/14/11 9:30AM

Our specialization was just added in the past couple of years, so we are growing rather than established. 4/13/11 3:10PM

Students often do not know what our field is and fall into it as a result of taking a service course. 4/13/11 2:51PM

Our undergraduate major and minor is in Professional Writing, not Technical Communication. It is a major and minor, among many, offered from within an English Department. 4/13/11 2:40PM

Unless you seek incoming freshmen aggressively, you aren't likely to get them. Even then, lots of TC majors pick TC after 2-3 other majors. 4/13/11 2:36PM

Our minor (with no real publicity) continues to grow. 4/12/11 9:19AM

Our projections were too optimistic; we struggle to attract, recruit, retain, and graduate students even though we're the only TC BS in the state. 4/8/11 3:10PM

63
Interview with Jason Sisk, MOBI Wireless  317-418-6289 Oct. 14, 2010

Revised Questions for Employers of Technical Communicators

- **Do you typically hire technical communicators? If so, how many?**
  Not "typically"—we hire people who are well-rounded technically, and communication is one of the skills needed. Between us and our sister company, there are about 5 – 10 people who are "technical" and qualified to communicate well.

- **From where do you typically recruit technical communicators?**
  We hire software developers, also documentation writers, mostly from Computer Science schools within the state; sometimes word of mouth

  - **Do you require a portfolio from potential technical communicator candidates?**
    Always.
  
  - **Which software programs do you require potential technical communicators to be proficient in?**
    Developers should be fluent in the full suite of software—none for writing, however. Skype is very important, IM, Net protocol; need to know how to get whomever, wherever they are.

  - **How many years' experience do you require of potential technical communicator candidates?**
    Experience is not as important as smartness. We know who we can mold. Ideally, 1-2 years of industry experience, but intelligence is most important.

  - **What other requirements do you have for technical communicator candidates?**
    Grammar skills! Clarity and brevity—sometimes it's hard for "eggheads" to communicate technical things to non-technical people.

- **What education do you require for entry-level technical communicators—do you consider a Technical Communications Certificate along with a bachelor's degree in any field as appropriate, or do you require a bachelor's or master's in technical communication?**
  At least a BA. TCM Certificate is less important—just a feather in someone's cap. The portfolio is important but the most important skill is the ability to communicate effectively through email.

- **How valuable are technical communicators to your organization?**
  Without communication we would flop. But we are a small company and we have a wide spectrum of employees, and they all have to be technical as well as to be able to communicate.

  - **Do technical communicators within your organization have alternate job titles? If so, what are they?**
    Everyone is a communicator.

  - **How are technical communicators organized within your company?**

    - **Are they centralized or dispersed throughout the different departments?** All employees need to be technical and need to communicate.

  - **What skills do technical communicators need to be successful within your organization?**
    Effective emailing.

- **Do you offer internships that would be appropriate for technical communicators?**
  Possible, but not routinely; depends on the situation, like if we had a large series of documentation and it was necessary to communicate info to non-technical people.
• As we create a major, what knowledge, skills, or professional practices should we develop within our students?
   Clarity and brevity are paramount. Need to understand socio-cultural barriers. They should have a discipline concentration where TCM strengths apply.

Interview with Cyndi Rose, Dawkins, Inc. 812-482-5656 x110 Oct. 15, 2010

• Do you typically hire technical communicators? If so, how many?
  No—I am the person who handles various communications.
  o How many years' experience did you have prior to this position?
    Probably about 10 years—I have “grown into” the position. It's been mostly on-the-job training.
  o What are some of the requirements for your position?
    Good communication skills are essential—the ability to communicate with and train users, and to communicate on their level.

• What is your level of education?
  I have an Associate's in Computer Programming.

• How valuable are your technical communication skills to your organization?
  Very.
  o Are you full-time, part-time, or contract? Full time.
  o What are some of your responsibilities?
    Communicating with users, vendors; training users, helping them troubleshoot when there’s a problem, writing instructions for users; communicating with companies about health care (EMR) programs.
  o What skills are needed to be successful within your organization?
    Communication skills. You need to be able to understand people from their perspective, be good listeners, understand the problem, know how to train users—everyone is different with different educational and intelligence levels. You need to have “emotional intelligence” to meet people where they are.
  o How much industry-specific knowledge did you have when you began working there?
    It's been mostly self-training in this position.
  o What software programs do you use?
    All the Microsoft Office programs, databases, browser base, browser IP, electronic medical records and healthcare related programs
  o Will you be hiring more or fewer technical communicators in the future? Why or why not?
    Probably not here, but I do see a need for this elsewhere. People (users) are often afraid of new technology and need training, sometimes you need to “hold their hand.” Someone needs to be able to bridge the gap between the techie and the user.

• As we create a major, what knowledge, skills, or professional practices should we develop within our students?
  Again, it’s the “emotional intelligence equation.” Techies sometimes talk in a language that users can't understand. They need to be good listeners and be able to communicate with a variety of different people of all levels of intelligence and education. They need good communication skills, be able to write instructions, emails, and visual aids are always good.

Interview with Kevin Kuhns, Interactive Intelligence Oct. 19, 2010

Revised Questions for Employers of Technical Communicators

• Do you typically hire technical communicators? Yes. If so, how many? We have about 9 right now; we have had as many as 15.

• From where do you typically recruit technical communicators?
  We post on the STC job website (attached); also, we recruit from department job boards. We go to IU’s, PU’s, and Rose Hulman’s job fairs, but we don’t recruit from there because we only hire experienced writers.
  o Do you require a portfolio from potential technical communicator candidates?
    No—but we do require them to take a writing test. (attached)
• Which software programs do you require potential technical communicators to be proficient in?
  Word, RoboHelp, Visio, WebHelp, Adobe Acrobat

• How many years' experience do you require of potential technical communicator candidates?
  Usually about 5 years; we don't hire entry level tech writers.

• What other requirements do you have for technical communicator candidates? Experience.
  They need to be able to come into an environment where there is not a lot of detailed guidance,
  where they have to assess the situation and act. They need to have strong technical aptitude; voice
  over IP, Gateway databases.

• What education do you require for entry-level technical communicators—do you consider a Technical
  Communications Certificate along with a bachelor's degree in any field as appropriate, or do you
  require a bachelor's or master's in technical communication? We don't require a BS, we require experience
  in the industry. Only 1 of our tech writers has a degree.

• How valuable are technical communicators to your organization?
  Very. They are part of our development team. We have about 200 programmers; they are an integral part of
  product development.

  • Do technical communicators within your organization have alternate job titles? If so, what are
    they?
    No. They are all "technical communicators" or "senior technical communicators." Having said that,
    some do more tasks.

  • Are your technical communicators full-time, part-time, or contract?
    At the moment, they are all full-time employees; there have been occasions when we needed a
    contractor, but not presently.

  • Are your technical communicators typically hourly or salaried?
    • What is an average pay range for technical communicators?
      Salaried; HR has a salary database and they base salaries on that.

  • How are technical communicators organized within your company?
    • Are they centralized or dispersed throughout the different departments?
      They are centralized, and are part of the development team.

  • What are technical communicators' responsibilities?
    To plan, organize, and write technical documents; online help, PDF files, technical references; work
    with software developers to update, maintain, and track—manage reports; graphical design,
    illustrations, graphic work; have to juggle several projects at once.

  • What skills do technical communicators need to be successful within your organization?
    Strong technical aptitude; need to be able to "talk shop" with programmers; I think a BS would be an
    advantage for more technical skills. They need to be able to organize large bodies of information and
    write concisely for different audiences. The use of tools is secondary; learning good technical
    communication skills is a must.

  • How much industry-specific knowledge do you expect for entry level technical communicators?
    Not much. Since we don't hire entry level our tech writers are not expected to have industry-specific
    knowledge, but they need knowledge of software specific to our environment.

  • What software programs do your technical communicators use and for what purposes?
    Well, we all "live" in Notebook. All the Microsoft Office—Word, PowerPoint, Visio, RoboHelp,
    Paintshop Pro, software tracking, Share Point, WIKI

  • Will you be hiring more or fewer technical communicators in the future? Why or why not?
    More—probably 2 in the next year. Our development team continues to grow and develop new
    products.

• Is there a career track for your technical communicators? If yes, is it a technology or management
  track?
  No. There should be, but no. Possibly in the future, as we begin to hire entry level tech writers, there will be
  "someplace for them to go."

• Do you offer internships that would be appropriate for technical communicators?
  About a year-and-a-half ago, we had an intern, but for software development, not tech writing. Maybe in the
  future we might.
As we create a major, what knowledge, skills, or professional practices should we develop within our students?

In addition to basic technical writing skills, they need to know online help development, principles, and tools; HTML writing, or whatever the web language of the day is. They need to develop interviewing skills. They need to understand product development cycles, especially software development. The more technical skills or aptitude, the better; also need to understand graphics—formats, uses, how they're used in technical communication.
### Appendix 6 – Assessment Plan for the TCM BS

The table below provides the IUPUI Principles of Undergraduate Learning (PULs) with explanation of specific outcomes and competencies for TCM BS graduates, the courses in which students should develop these abilities, the courses in which we plan to concentrate our assessment, and the potential assessment methods that the TCM Program plans to use. We intend to use a variety of relevant assessment approaches incorporating direct and indirect methods as well as qualitative and quantitative measures.

The assessment data will be collected by faculty members and reported to the TCM program director each semester. The program director will present the results to the department chair annually. The department chair will identify any areas of weakness, and the chair, the department faculty as course coordinators will determine what action will be taken. Every five to seven years, more intensive assessment will be made by surveying employers, alumni, and by using other appropriate research methods to see if students have developed the skills listed.

The BS in Technical Communication degree program will fulfill the IUPUI Principles of Undergraduate Learning (PULs) when its graduates demonstrate the ability to meet the PUL outcomes, as listed below. (Currently, technical communication has no discipline-specific accrediting body for the field, so we plan to use the IUPUI PULs as we assess student learning.)

As noted in section D2 above, the program will also involve regular surveys of employer and alumni satisfaction in order to determine how well graduates were prepared for the workplace as well as graduate study. Information gathered through the assessment process will be used to help determine the summative effectiveness of the program in meeting its intended learning outcomes and to guide adjustments to help with continuous programmatic improvement.

<table>
<thead>
<tr>
<th>PUL Outcomes (with TCM discipline-specific competencies, as listed in Appendix 1)</th>
<th>Courses in which these abilities are taught</th>
<th>Courses in which assessment may be concentrated</th>
<th>Potential assessment methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(a) - Express ideas and facts effectively in written formats. Understand typical verbal and visual conventions of technical communication. Analyze audiences. Lay out “pages” for paper and electronic media. Analyze user tasks. Use graphic elements such as tables, images, charts, and graphs to communicate technical information. Proofread text. Edit technical communication products. Develop and apply publication standards. Report the results of research. Adapt reports to fit collaborators’/supervisors’ needs. Create text appropriate for an audience and situation.</td>
<td>TCM 21000, TCM 22000, TCM 23000, TCM 32000, TCM 35000, TCM 42500, TCM 4xxxx (Capstone); ENG W131, W315, W320, W331, W65; INFO 1260; Jour 350; CIT 10600; COMM C223, C180, C380</td>
<td>TCM 21000, TCM 22000, TCM 23000, TCM 32000, TCM 35000, TCM 42500, TCM 4xxxx (Capstone); CIT 10600</td>
<td>Instructor PUL assessments; students’ written reports and reflective memoirs will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool; Capstone portfolios will be assessed.</td>
</tr>
<tr>
<td>1(b) - Comprehend, interpret, and analyze texts. Understand typical verbal and visual conventions of technical communication. Understand how popular culture communicates messages about technology.</td>
<td>TCM 32000, TCM 39000; ENG W210, W310, W313, W412, Z204</td>
<td>TCM 32000, TCM 39000</td>
<td>Instructor PUL assessments; students’ written reports and reflective memoirs will be evaluated to glean evidence of PUL outcomes</td>
</tr>
<tr>
<td>1(a) - Communicate orally in one-on-one and group settings</td>
<td>TCM 3400, TCM 3500; COMM R110, R310, C394, C400; OLS 27400</td>
<td>TCM 34000, TCM 35000; OLS 27400</td>
<td>Instructor PUL assessments; students' oral reports are evaluated; students complete self-assessment tool</td>
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<td>Work in teams, especially serve functions. Communicate effectively in formal and informal workplace presentations.</td>
<td>STAT 13300, IET 15000; ECON E270, CIT 12000, CIT 22000; MATH M4110; INFO M210; CSCI N207; A number of the technical/scientific courses</td>
<td>IET 15000, CIT 12000, CIT 22000; A number of the technical/scientific courses</td>
<td>Instructor PUL assessments; students complete self-assessment tool</td>
</tr>
<tr>
<td>1(b) - Solve problems that are quantitative in nature</td>
<td>TCM 42500, TCM4xxx (Capstone); ENG-W 412; CGT 10200, CGT 11100, CGT11200; INFO N201, N221, N222 1270, 1275; A number of the technical/scientific courses</td>
<td>TCM42500, TCM4xxx (Capstone); CGT 10200, CGT 11100, CGT11200; A number of the technical/scientific courses</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool; Capstone portfolios will be assessed.</td>
</tr>
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<td>Understand Metrics, Key Performance Indicators (KPIs), and &quot;Dashboards.&quot; Understand statistical principles used to assess technical communication effectiveness.</td>
<td>TCM 22000, TCM 23000; OLS 26300, INFO N250; COMM C481</td>
<td>TCM 22000, TCM 23000; OLS 26300</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool</td>
</tr>
<tr>
<td>2(a) - Analyze complex issues and make informed decisions</td>
<td>TCM 52000, TCM45000, TCM4xxx (Capstone); OLS26300</td>
<td>TCM 52000, TCM45000, TCM4xxx (Capstone); OLS26300</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool; Capstone portfolios will be assessed.</td>
</tr>
<tr>
<td>Determine communication approaches that fit situations. Explain reasons for communication decisions.</td>
<td>STAT 11300, STAT 30100; IET 15000, CIT 22000; CSCI N207; A number of the technical/scientific courses</td>
<td>IET 15000; CIT 22000; A number of the technical/scientific courses</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool</td>
</tr>
<tr>
<td>2(b) - Synthesize information in order to arrive at reasoned conclusions</td>
<td>TCM 4xxx (Capstone); OLS26300; INFO N250; COMM C481; A number of the technical/scientific courses</td>
<td>TCM4xxx (Capstone); OLS26300; A number of the technical/scientific courses</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool</td>
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<td>Analyze the results of usability studies, quantitatively and qualitatively. Analyze research results.</td>
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<td>2(c) - Evaluate the logic, validity, and relevance of data</td>
<td>TCM 4xxx (Capstone); OLS26300; INFO N250; COMM C481; A number of the technical/scientific courses</td>
<td>TCM4xxx (Capstone); OLS26300; A number of the technical/scientific courses</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool</td>
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<td>Demonstrate curiosity. Design and manage processes of creating communication products.</td>
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<tr>
<td>2(d) - Solve challenging problems</td>
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</tbody>
</table>
2(a) - Use knowledge and understanding to generate and explore new questions
Conduct appropriate primary research using a variety of appropriate approaches.
Conduct appropriate secondary research from a variety of sources.
Analyze the results of research.

TCM3200, TCM45000, COMM C481, M210; ENG W131, W320
TCM3200, TCM45000;
Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool.

3(a) - Apply knowledge to enhance personal lives
Be committed to continuous learning/learning from experience.

TCM2200, TCM32000; OLS26300; Eng W262, W426;
COMM R110, C223; INFO I270, I275,
TCM2200, TCM32000;
Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool.

3(b) - Apply knowledge to meet professional standards and competencies
Modularize content.
Develop and apply visual standards for technical communication products.
Apply appropriate level of edit for policy, technical accuracy, proprietary information, etc.
Plan and manage tasks and time.
Work with deadlines.
Engage with other professionals and professional organizations.
Pay attention to detail.

TCM2200, TCM32000, TCM 35000, TCM 4xxx (Capstone); OLS 26300, OLS 38500; ENG W231, W365; COMM C380, C400, C481
TCM2200, TCM32000, TCM 35000, TCM 4xxx (Capstone); OLS 26300, OLS 38500;
Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool; Capstone portfolios will be assessed.

3(c) - Apply knowledge to further the goals of society
Create and conduct usability studies for technical communication products.
Design usable technical communication products.

OLS2700, OLS32800, OLS33100; Eng Z204; COMM C180, C380, C482
OLS2700, OLS32800, OLS33100;
Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool.

4(a) - Display substantial knowledge and understanding of at least one field of study
Understand usability/user-centered design.
Understand instructional design principles, especially for adult learners.
Understand style guidelines and standards.
Understand visual design theory.
Understand information architecture.
Understand design issues related to accessibility of information.
Understand methodologies incorporating best practices in technical communication.

TCM23000, TCM32000, TCM 4xxx (Capstone); Eng W210, INFO N328
TCM23000, TCM32000, TCM 4xxx (Capstone);
Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool; Capstone portfolios will be assessed.

4(b) - Compare and contrast approaches to knowledge in different disciplines

TCM 4xxx (Capstone); Eng W313;
INFO N450
TCM 4xxx (Capstone);
Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool; Capstone portfolios will be assessed.
<table>
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<tr>
<th>4(c) - Modify their approach to an issue or problem based on contexts and requirements of particular situations; Innovate creative solutions to technical communication problems/needs</th>
<th>TCM4xxx (Capstone); OLS26300, INFO N250; COMM C482, M210;</th>
<th>TCM4xxx (Capstone); OLS26300, INFO N250;</th>
<th>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool; Capstone portfolios will be assessed</th>
</tr>
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<tbody>
<tr>
<td>5(a) - Compare and contrast the range of diversity and universality in human history, societies, and ways of life</td>
<td>OLS 25200, OLS 32700, OLS 32800; COMM B310, C482, M210; ENG W366</td>
<td>OLS 25200, OLS 32700, OLS 32800;</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool</td>
</tr>
<tr>
<td>5(b) - Analyze and understand the interconnectedness of global and local concerns; Understand a variety of cultural communication styles; Translate/ internationalize/ localize technical communication products.</td>
<td>OLS 25200, OLS 26300 OLS32700, OLS 32800; COMM C482; INFO 1202</td>
<td>OLS 25200, OLS 26300 OLS32700, OLS 32800;</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool</td>
</tr>
<tr>
<td>5(c) - Operate with civility in a complex social world; Mentor others in the field; Exercise interpersonal skills and emotional intelligence.</td>
<td>TCM4xxx (Capstone); OLS25200, OLS26300; INFO N250; COMM C482;</td>
<td>TCM4xxx (Capstone); OLS25200, OLS26300;</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool</td>
</tr>
<tr>
<td>6(a) - Make informed and principled choices regarding conflicting situations in their personal and public lives and to foresee the consequences these choices; Understand ethical issues in technical communication; Demonstrate ethical practices in technical communication.</td>
<td>TCM4xxx (Capstone); COM C394, COM C482; OLS26300, INFO N250; COM C482</td>
<td>TCM4xxx (Capstone); OLS26300, INFO N250;</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool; Capstone portfolios will be assessed</td>
</tr>
<tr>
<td>6(b) - Recognize the importance of aesthetics in their personal lives and in society; Create technical communication products that appeal to users.</td>
<td>TCM 35000; MUS M110, M174, Z111, Z315, Z320; INFO N256, N290, N328</td>
<td>TCM 35000; MUS M110, M174, Z111, Z315, Z320; INFO N256, N290, N328</td>
<td>Instructor PUL assessments; students' written reports and reflective memos will be evaluated to glean evidence of PUL outcomes; students complete self-assessment tool</td>
</tr>
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</table>
Appendix 7—IUPUI Principles of Undergraduate Learning (PULs)

The Principles of Undergraduate Learning are the essential ingredients of the undergraduate educational experience at Indiana University Purdue University Indianapolis. These principles form a conceptual framework for all students' general education but necessarily permeate the curriculum in the major field of study as well. More specific expectations for IUPUI's graduates are determined by the faculty in a student's major field of study. Together, these expectations speak to what graduates of IUPUI will know and what they will be able to do upon completion of their degree.

I. Core Communication and Quantitative Skills
[Definition:] The ability of students to express and interpret information, perform quantitative analysis, and use information resources and technology—the foundational skills necessary for all IUPUI students to succeed.
[Outcomes:] Core communication and quantitative skills are demonstrated by the student's ability to
a. express ideas and facts to others effectively in a variety of formats, particularly written, oral, and visual formats;
b. comprehend, interpret, and analyze ideas and facts;
c. communicate effectively in a range of settings;
d. identify and propose solutions for problems using quantitative tools and reasoning;
e. make effective use of information resources and technology.

II. Critical Thinking
[Definition:] The ability of students to engage in a process of disciplined thinking that informs beliefs and actions. A student who demonstrates critical thinking applies the process of disciplined thinking by remaining open-minded, reconsidering previous beliefs and actions, and adjusting his or her thinking, beliefs and actions based on new information.
[Outcomes:] The process of critical thinking begins with the ability of students to remember and understand, but it is truly realized when the student demonstrates the ability to
a. apply,
b. analyze,
c. evaluate, and
d. create
knowledge, procedures, processes, or products to discern bias, challenge assumptions, identify consequences, arrive at reasoned conclusions, generate and explore new questions, solve challenging and complex problems, and make informed decisions.

III. Integration and Application of Knowledge
[Definition:] The ability of students to use information and concepts from studies in multiple disciplines in their intellectual, professional, and community lives.
[Outcomes:] Integration and application of knowledge are demonstrated by the student's ability to
a. enhance their personal lives;
b. meet professional standards and competencies;
c. further the goals of society; and
d. work across traditional course and disciplinary boundaries.

IV. Intellectual Depth, Breadth, and Adaptiveness
[Definition:] The ability of students to examine and organize disciplinary ways of knowing and to apply them to specific issues and problems.
[Outcomes:] Intellectual depth, breadth, and adaptiveness are demonstrated by the student's ability to
a. show substantial knowledge and understanding of at least one field of study;
b. compare and contrast approaches to knowledge in different disciplines;
c. modify one's approach to an issue or problem based on the contexts and requirements of particular situations.

V. Understanding Society and Culture
[Definition:] The ability of students to recognize their own cultural traditions and to understand and appreciate the diversity of the human experience.
[Outcomes:] Understanding society and culture is demonstrated by the student's ability to
a. compare and contrast the range of diversity and universality in human history, societies, and ways of life;
b. analyze and understand the interconnectedness of global and local communities; and

c. operate with civility in a complex world.

VI. Values and Ethics

[Definition:] The ability of students to make sound decisions with respect to individual conduct, citizenship, and aesthetics.

[Outcomes:] A sense of values and ethics is demonstrated by the student's ability to

a. make informed and principled choices and to foresee consequences of these choices;

b. explore, understand, and cultivate an appreciation for beauty and art;

c. understand ethical principles within diverse cultural, social, environmental and personal settings.
Appendix 8—IUPUI’s RISE to the Challenge Initiative

**RISE to the Challenge** is focused on increasing undergraduate student participation in research, international, service, and experiential learning programs. The RISE initiative will offer students special opportunities to engage in concrete experiences associated with research, global learning, community service, and careers. With guidance and mentorship, students will go on to relate these experiences to classroom learning in structured, educationally meaningful ways. RISE will engage students more deeply in their learning and contribute to their intellectual and professional development in unique ways. While the initiative is still in formulation, the initiative's goal is for IUPUI graduates to have exposure to at least two RISE categories.

**Research** conducted under the mentorship of a faculty member. Undergraduate research experiences include any scholarly or artistic activities that lead to the production of new knowledge; to increased problem solving capabilities, including design and analysis; to original critical or historical theory and interpretation; or to the production of art or artistic performance. The research requirement will not be met by courses that teach about research; rather, it is a credit-bearing educational experience that involves the student in conducting research under the mentorship of a faculty member.

**International experience**, such as study-abroad courses or independent study. International engagement will include credit-bearing coursework or independent study in which students directly and intensively engage with a national community outside their own, reflect on this engagement in an informed and thoughtful way, and enhance their skills of international understanding and interaction. Study abroad (outside the 50 states and District of Columbia) is the preferred mode for fulfilling this goal, but exceptionally interactive and immersive experiences with immigrant groups, organizations concerned with global issues, or campus-based courses employing interactive distance technologies may sometimes also count. Students who are not U.S. citizens or permanent residents may apply to develop faculty-guided, credit-bearing formats for reflecting on their experiences in the U.S.

**Service-Learning Courses.** A course-based, credit bearing educational experience in which a student participates in an organized service activity that meets identified community needs and reflects on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of personal values and civic responsibility.

**Experiential Learning Courses.** Coursework specifically designed with increased requirements outside of the classroom can qualify as experiential learning (integration of knowledge, activity, reflection and assessment to translate learning into action). This requirement may be met with specially designated credit-bearing classes or by one of the following instruction formats:

1. Clinical Education
2. Cooperative Education
3. Field Work
4. Internship Practicum
5. Student Teaching
6. Mentoring Practice
7. Other categories

Consistent with the other components of the RISE challenge, experiential learning courses will incorporate knowledge, activity, reflection, and assessment and carry academic credit discernable on the students’ transcript.

For more on RISE, visit [http://academicaffairs.iupui.edu/plans/RISE.cfm](http://academicaffairs.iupui.edu/plans/RISE.cfm).
Appendix 9 -- Degree Articulation Agreement with Ivy Tech (See following pages)