the global executive track
mission

To provide the opportunity for working executives to combine real-world experience with academic skills to create a new class of technical leaders who embrace integrative thinking, are globally aware, and are capable of producing sustainable value to any organization throughout the world.

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The globalization of business means that we all live in an increasingly complex and interdependent global economy that is bringing profound change to people, organizations and societies worldwide. Global business management, then, means that technical leaders as well as managers must play an increasing role in the planning and coordinating of a range of activities across national boundaries, cultures, and differing contexts. The global business environment is complex, and this complexity increases as the number of markets served by a firm increases. Leading an effective multinational technical workforce means that engineering executives must master knowledge, skills, and tools that will help them frame problems, opportunities and develop effective execution strategies. They must become proficient at employing a systems approach to recognize interdependencies and distinctions of technical, cultural, economic, political-legal and general international business factors that cross many different contexts. The Global Executive Track (GET) Ph.D. in Industrial Engineering at Wayne State University offers technical managers and executives the opportunity to acquire the perspectives and competencies to flourish in today’s global business environment.

The Global Executive Track originated when a number of leaders from Michigan-based industries approached Wayne State University looking for a program that would allow busy executives to earn a fully accredited Ph.D. degree, while accommodating a demanding work schedule. In the spring of 2007, Wayne State professors, Dr. Ratna Babu Chinnam, Dr. Julia Gluesing, and Dr. Kenneth Chelst and the department’s support staff, worked together with an advisory group made up of senior executives from industry to create the GET program, which was launched in January of 2008. This is the first such engineering Ph.D. track in the United States designed for technical managers and executives!

The GET Ph.D. in Industrial Engineering prepares individuals to lead a technical organization in a competitive global environment, providing them with a global perspective on corporate and engineering management systems. The program features core courses with a focus on integrated learning and attention to key decisions, which global technical managers and executives are likely to encounter. The emphasis is on mastering the critical knowledge they need to lead global enterprises in complex global contexts. The key decisions and knowledge elements frame the central content drawn from industrial and systems engineering, engineering management, management science, international business, and business anthropology.
The Global Executive Track (GET) Ph.D. in Industrial Engineering at Wayne State University includes and expounds upon the systems, processes, and activities integral to major global organizations. Central to the GET program are two core courses—Idea through Launch and Launch through Sustainability. In the Idea through Launch course, learning partners explore the processes of creating and developing a product or service from the ideation stage to the launch stage. The Launch through Sustainability course picks up the product life-cycle process where Idea through Launch leaves off. Learning partners explore the life-cycle process of a product or service with respect to product and business sustainability. The core courses are divided into integrated content modules. Modules for the Idea through Launch course include innovation, knowledge management, lean and global product/service development, human factors, and launch readiness. The Launch through Sustainability course modules emphasize design of the global supply and distribution network as well as logistics, lean manufacturing, quality, supplier integration, customer relations, and ecological considerations for end-of-life product disposition, including reuse and remanufacturing.

The GET program also promotes the development of advanced technical skills. All learning partners are advised to take upper-level graduate courses such as Risk and Decision Analysis and Management of Technology Change. The Risk and Decision Analysis course focuses on the structure and analysis of technical management decisions with emphasis on multiple objectives, trade-offs, and significant uncertainty. The Management of Technology Change course offers an in-depth treatment of the development and implementation of new ideas, technologies, and processes; special attention is given to interaction among technology, work process, organization, human factors, and culture. There also are a number of course offerings available to our learning partners as electives that address such topics as product development, operations research, supply chain management, systems engineering, quality management, information engineering, and leadership of the global technical organization. GET program learning partners also are encouraged to elect directed studies in their particular areas of interest, working with faculty who are experts in the field.

Unlike many other executive doctoral programs, the Global Executive Track Ph.D. in Industrial Engineering requires the successful completion of a technical dissertation. Learning partners will take the knowledge and best practices gained from their coursework and apply it to an area of original research. They have the opportunity to pursue management science or technical research and work with faculty members to determine the best plan of study in accordance with personal interests and organizational objectives.

This program is the ideal platform for managers and executives to expand knowledge and master both fundamental and cutting edge engineering and business principles and their application to many different environments. A process focus, systems thinking, and global awareness constitute the core beliefs of the Global Executive Track Ph.D. program. Learning partners should be eager to pursue new approaches to real-world business issues in a global economy. Moreover, they must be willing to share personal accomplishments and adversities from their own experiences in the workplace. Regardless of current experience, the GET program offers the opportunity to significantly develop competencies and increase effective leadership in the global context. The program is a challenging learning and growth opportunity in a partnership among faculty, program candidates, and academic and professional experts.
• Earn a Ph.D. in Industrial Engineering while maintaining a current job. The Global Executive Track is designed for working managers and executives. Courses meet every fourth weekend (Thursday evening, Friday afternoon, and Saturday all day), which are considered residency sessions. To promote continued academic dialogue, the program also includes one evening course meeting between residency sessions.

• Become a learning partner in a progressive classroom that incorporates the knowledge and experience of like-minded executive students to promote learning objectives. Courses are team taught and designed by faculty from industrial engineering, business, anthropology, and senior executives from industry.

• Join managers and executives across industries such as automotive, defense, health care and information technology, and organizations that include, for example, General Dynamics, American Axle, Ford, GM, Chrysler, Urban Science, HUD, and the VA Hospitals.

• Examine issues dealing with globalization and confront major problems and opportunities affecting profitability, sustainability, and longevity of major industries.

• Experience an innovative curriculum that addresses the importance of human infrastructure, robust processes, systems thinking, and global cultures.

• Develop research questions to investigate practical problems, create case studies, publish journal articles, and explore new and exciting issues in the dissertation process.

program highlights

Steve Rapp
Cohort 2008
Product Manager, GDLS

As a senior manager executing a very large DoD development program, I was looking for something that was immediately practical, decidedly innovative, team focused, and that would fit into my executive schedule. I found it with the GET program. The GET team has done an extraordinary job in pulling in guest lecturers and extended faculty who are practitioners dealing with current, real world problems and opportunities. Whether a seasoned diplomat from India, a think tank leader, a Ford Executive VP, or a consulting firm CEO, we’ve met and worked with true problem solvers. The GET program is where motivated, upwardly mobile executives need to go to gain the competitive edge and personal career satisfaction that they both want and need.
FROM IDEA THROUGH LAUNCH: PARTS I & II
In this five credit course, learning partners will explore the creation and development of a product or service, emphasizing processes and systems that span all stages of product development from ideation to marketplace implementation. Idea through Launch is separated into Part I and Part II, with integrated content modules. Modules include innovation, knowledge management, lean and global product development, human factors, and launch readiness.

FROM LAUNCH THROUGH SUSTAINABILITY: PARTS I & II
This course is also five credits and picks up the product life-cycle process where Idea through Launch leaves off. Learning partners will explore the life cycle process of a product or service for sustainability. Modules emphasize design of the global supply chain network and logistics, international business practices for lean manufacturing, quality, and customer relations management.

GLOBAL PERSPECTIVES ON ENGINEERING & MANUFACTURING MANAGEMENT
This two credit course is designed to provide technical leaders with a system of frameworks to holistically understand and practically manage operations to be technologically competitive in the global marketplace. This course provides the foundation for the specific Country Courses.

GLOBAL ENGINEERING & MANUFACTURING MANAGEMENT: COUNTRY COURSES
These are one credit courses designed to provide broad coverage about a specific country or region that is of particular interest to technical leaders in the current global market. Each course will provide leaders with a better understanding of the relationship between the forces of globalization and local contexts so they can better coordinate and integrate global business operations.

ADVANCED ENGINEERING STATISTICS
Analytics, including data analysis and statistical models, are at the core of business, service, product, engineering, and policy decisions. The modules of this course include key statistical methods: linear regression and logistic models, data collection, multivariate analyses, and time series. At the end of this three credit course, one should have a broad and critical understanding of the application of these methods for engineering and manufacturing management.

LITERATURE REVIEW
This one credit course serves as a foundation course for conducting scholarly research. The literature review process is integral to one’s ability to identify gaps in the scientific knowledge worthwhile to pursue for doctoral studies.

RESEARCH DESIGN AND METHODS: QUALITATIVE AND QUANTITATIVE
These courses are three credits each and are designed to help learning partners fully understand the fundamentals of conducting qualitative and quantitative research and properly applying relevant methods and tools. Topics covered in these courses include: developing research questions, designing the research plan, the role of the researcher, sample selection, data collection, analysis and measurement. The goal of these courses is to prepare learning partners to write scholarly articles for conferences and publications, to conduct dissertation research, and to use research to stay globally competitive.

TECHNICAL COURSES
- Product Development
- Systems Engineering
- Manufacturing
- Quality Management
- Global Engineering Management
- Supply Chain Management
- Service Design and Management
- Information Systems
In most cases, a student will need a minimum of two and one half years to complete the coursework and case study requirements, and an additional two years to complete the dissertation.

Students can complete the program in three and a half years if willing to maintain a higher load during the program.

**Year 1 (14—16 credits)**
- Core: From Idea through Launch Pt. I & II (5 total credits)
- Global Perspectives on Engineering & Manufacturing Management (2)
- Global Engineering & Manufacturing Management Country Course (1)
- Qualitative Research Design & Methods (3)
- Advanced Engineering Statistics (3)
- Technical Electives or Directed Study (2-6)
- Literature Review Prep (1)
- Submit Proposal for Case Study I

**Year 2 (13—16 credits)**
- Core: From Launch through Sustainability Pt. I & II (5 total credits)
- Global Engineering & Manufacturing Management Country Course (1-2)
- Quantitative Research Design & Methods (3)
- Decision and Risk Analysis (3)
- Technical Electives or Directed Study (2-6)
- Complete Case Study I
- Submit Proposal for Case Study II

**Year 3 (10.5—15 credits)**
- Deterministic Optimization (3)
- Management of Technology Change (2)
- Core Analytic Skills and Technical Electives (0-8)
- Dissertation Proposal/Dissertation Research (7.5)
- Complete Case Study II

**Year 4 (15 credits)**
- Dissertation Research (15 credits)
- Submit Journal Article I

**Year 5 (7.5 credits)**
- Complete Dissertation Research (7.5 credits)
- Submit Journal Article II
program description

The Global Executive Track is an extremely rigorous program. During the first two years, the normal course load each winter and fall semester will include three separate courses:

1. A core course delivering integrative models and knowledge from contemporary theory and research for taking an idea for a product or service from a concept to a sustainable business.

2. A core course on the globalization of engineering and manufacturing, encompassing global perspectives on legal, political, economic and cultural environment of business or focusing on the application of these perspectives to a particular region or country such as South America or China.

3. A technical course such as Decision and Risk Analysis, Management of Technology Change, or Operations Research. Between class meetings, to fulfill requirements of the core courses, learning partners will typically be required to read 150 or more pages of conceptual material, read and respond in writing to a Harvard Business School-type case study, read several state-of-the-art journal articles, and participate in discussion questions posted online. Attendance in class is mandatory and critical to the shared learning experience.

degree requirements

Coursework (60 credits)
- Students without IE background: 70 credits of coursework
- Transfer from relevant MS degree: 30 credits

Dissertation Research (30 credits)

Core Courses
- Idea through Launch, Launch through Sustainability, two Global courses, Literature Review, Qualitative and Quantitative Research Design and Methods

Prerequisite Knowledge
- Probability and Statistics, Deterministic Optimization

Other Requirements
- Developing two teaching case studies to satisfy preliminary examination requirements
Doctoral students are expected to generate new knowledge that advances both the academic discipline and the world of professional practice. To support this objective, the Literature Review and the Research Design and Methods courses are designed to help learning partners develop and improve necessary research and technical writing skills. To enhance writing skills and provide the learning partners with the opportunity to contribute to the body of teaching knowledge in industrial and systems engineering, learning partners will draw on their years of relevant experience to develop and present two original teaching case studies. Successful development and defense of these two case studies will serve to satisfy the preliminary examination requirement of the Ph.D. program. Some past case study proposals have included:

- Automotive Hybrid Technology Decision
- Total Productive Maintenance
- Where Has All the IP Gone - Challenges in China
- Innovation, Regulation, and the Future of Commercial Innovation in the United States

The required Research Design and Methods courses are held on a two-year rotating cycle. Every calendar year, either the qualitative or quantitative version of the course will be offered. Both of the courses carry the option of continuing research through a two credit hour independent study, which is to be completed over the course of the calendar year. The independent study culminates in the submission of a research paper, which is to be presented at an elite conference or submitted to a scholarly journal in the field of industrial and systems engineering. This research paper may used in lieu of one of the two required teaching case studies.

In addition, the GET program requires all learning partners to propose and complete a formal dissertation. Learning partners will have the opportunity to tailor the dissertation research to their interests aligned with the program objectives. The learning partners are also required to disseminate the results of their dissertation research for publication in scholarly journals. The program requires the submission of at least two manuscripts to reputable international journals.

The GET program is not a typical “executive education” program. The workload is heavy, and expectations are high. Self discipline is a “must” in order to successfully integrate the demands of the program with a career and family life. However, the rewards have been a broader perspective toward workplace challenges, tremendous access to academic resources, and monthly interaction with a great group of individuals with which to share ideas. The results are better solutions, increased motivation, and the satisfaction that comes from accomplishment and progress.

Mark Dolsen
Cohort 2009
Plant Manager,
Quality Safety Systems

The GET program is not a typical “executive education” program. The workload is heavy, and expectations are high. Self discipline is a “must” in order to successfully integrate the demands of the program with a career and family life. However, the rewards have been a broader perspective toward workplace challenges, tremendous access to academic resources, and monthly interaction with a great group of individuals with which to share ideas. The results are better solutions, increased motivation, and the satisfaction that comes from accomplishment and progress.
Global Executive Track faculty

**CO-DIRECTORS**

Dr. Ratna Babu Chinnam  
*Associate Professor, Wayne State University, ISE Department*  
Dr. Chinnam leads the development and the delivery of the Launch through Sustainability course modules. His research interests include Supply Chain Management, Logistics, Agile Manufacturing, Sustainability, Lean Product Development, Systems Engineering, and Complex Systems.

Dr. Julia Gluesing  
*Research Professor, Wayne State University, ISE Department*  
Dr. Gluesing is a business and organizational anthropologist and leads the development and delivery of the global perspectives and culture courses. Her research interests include mobile work, innovation in global networked organizations, and collaboration in complex multi-stakeholder business environments.

**ASSOCIATED FACULTY**

Dr. Kenneth Chelst  
*Professor, Wayne State University, ISE Department*  
Dr. Chelst’s research interests include structured decision making in engineering management and the impact of globalization on the engineering and manufacturing management functions. Dr. Chelst regularly receives teaching awards with many of them coming for his teaching of structured decision-making.

Dr. R. Darin Ellis  
*Associate Professor, Wayne State University, ISE Department*  
Dr. Ellis’s research focuses on human factors engineering and user interface design, with particular emphasis on human-machine-interaction issues. His interests also include the development of simulated task test-beds and the design of human-machine interfaces for the training of space telerobotic operators, as well as the development of simulated tasks to assess surgical robot (e.g. Zeus, DaVinci) interfaces and surgeon training and assessment protocols.

Sam Kahan, A.B.D.  
*Recently Retired Senior Economist at the Federal Reserve Bank of Chicago*  
Sam Kahan has been widely quoted in the world’s media including CNN, Reuters, Business Week, The Wall Street Journal, and The New York Times. He has been a frequent presenter at international conferences and roundtable discussions on economic and policy issues.

Dr. Kyoung-Yun Kim  
*Assistant Professor, Wayne State University, ISE Department*  
Dr. Kim’s research interests include computational intelligence in product design, ambient intelligent design, collaborative product development, CAD/CAM/PLM, telerehabilitation, and joining processes.

Ram Kishan  
*Adjunct Professor, Wayne State University, ISE Department*  
Professor Kishan held senior positions in the Indian government and the Indian foreign-service in Europe and Africa. In his 33 years of service in government, his responsibilities included internal security, diplomatic relations, and trade and economic policy. He was also the Chairman of a public sector corporation in charge of environmental protection, land development, and forestation in the state of Rajasthan, India.
JohnPaul Kusz, F.I.D.S.A.
Associate Director, Center for Sustainable Enterprise and Adjunct Professor, Illinois Institute of Technology, Stuart School of Business
JohnPaul Kusz develops technologies and strategies aimed at mitigating the negative environmental effects of commerce. Formerly, he directed the product development and product stewardship groups at Safety-Kleen Corporation, an environmental services company.

Dr. Leslie Monplaisir
Associate Professor, Wayne State University, ISE Department
Dr. Monplaisir leads the development and delivery of the Idea through Launch course modules. His research interests include all facets of product development.

Dr. Alper Murat
Assistant Professor, Wayne State University, ISE Department
Dr. Murat leads parts of the Launch through Sustainability course modules. His research interests include supply chain management, logistics, and network design.

Sheri Perelli, E.D.M.
Lecturer, Case Western Reserve University, Doctor of Management
Sheri Perelli leads the qualitative version of the Research Design and Methods course. Her research interests include business as an agent of social change in developing economies, social entrepreneurship, public-private partnerships, intersectoral collaboration, and collective action dynamics in social and economic development.

Dr. Kenneth Riopelle
Research Professor, Wayne State University, ISE Department
Dr. Riopelle leads the Literature Review course. His professional experience spans over 30 years using both qualitative and quantitative research designs and methods, to help companies develop and target their products and services and evaluate their performance with customers. His research interests include diffusion of innovation in globally networked organizations and collaboration networks in healthcare.

Dr. Nanua Singh
Professor, Wayne State University, ISE Department
Dr. Singh's research interests include cellular manufacturing systems: design, planning, and control. He has been active in research, supervising over 20 Ph.D.s. In addition, Dr. Singh has authored nearly 130 research papers, and he is the Editor-in-chief of the International Journal of Six Sigma and Competitive Advantage.

Dr. Toni Somers
Professor of Management and Information Systems, Wayne State University, School of Business Administration
Dr. Somers leads the quantitative version of the Research Design and Methods course. Her research interests include: manufacturing strategy, manufacturing management, information systems, IT management, IT innovation diffusion, and enterprise systems and organizational transition.

Dr. Kai Yang
Professor, Wayne State University, ISE Department
Dr. Yang’s research areas include statistical methods in quality and reliability engineering, engineering design methodologies and lean healthcare. He is an author of five books and over 70 research papers.

Dr. Dr. Qingyu Yang
Assistant Professor, Wayne State University, ISE Department
Dr. Yang’s research areas include healthcare systems engineering, Medicare service quality improvement, lung function modeling, and capability studies of CT imaging systems. He also has methodological and technical expertise in data mining, information systems, and complex signal processing.

Dr. Attila Yaprak
Professor of Marketing and International Business, Wayne State University, School of Business Administration
Dr. Yaprak leads the marketing and international business modules in the Idea through Launch course. His research interests include cross-national consumer behavior, international strategic alliances, marketing strategy, and marketing in emerging economies.
As the co-Directors of the program, we would like to introduce you to Wayne State University’s exclusive Global Executive Track (GET) Ph.D. in Industrial Engineering. This is the first such engineering track designed for executives in the United States.

The GET program combines academic knowledge and real-world experience to explore an array of engineering topics and global management issues. With our convenient schedule that meets once every four weeks, candidates can continue their working careers while actively engaging in a rigorous Ph.D. program. This unique Ph.D. track incorporates the following:

- **Global Management**—focusing on leading with global competency in industrial growth regions of the world
- **Effective Global Decision Making**—mastering research skills, independent analysis, interpretation, and critique that facilitates recognition of problems, opportunities, and decisions among holistic solution alternatives
- **Multi-disciplinary Approach**—covering the entire range of business functions and fostering thinking about business problems and solutions from many different perspectives
- **Comprehensive Analysis**—spanning the entire product and/or service life cycle from idea through launch to sustainability
- **Immediate Impact**—sharing practices, integrating the program with candidates’ careers, and channeling learning experiences to their organization and/or profession

The Global Executive Track Ph.D. in Industrial Engineering at Wayne State University is looking for creative, motivated individuals with significant managerial practice, experience in a global environment, and a proven record of technical leadership with a passion for learning and knowledge creation. If you feel that you meet these standards, we would like to invite you to apply.
minimum requirements

- 10 years of experience with significant managerial experience; global experience is desirable
- Bachelor of Science in Engineering and a relevant Master’s degree or MBA

Profile of the Ideal Candidate:

*Education:* Bachelor in Engineering and Master’s in Industrial Engineering, Operations Research, Engineering Management, or MBA

*Experience:* 10 years of technical with 5 years of global management or span of Influence (50+ employees)

*Titles:* Chief Engineer, Assistant Plant Manager, Program Manager, Purchasing Manager

*Demonstrated Leader:* Leading initiatives with complex, cross-organizational impact

*Attitude & Values:* Continuous learner, values diversity, keen listener, active participant, team player, change agent, committed to the program
applied to the GET program

To apply to this program, please visit the Wayne State University Graduate Admissions website: http://gradadmissions.wayne.edu/

To assist in the application process, refer to the checklist below. The program directors are available for consultation and to address any questions you might have: Dr. Chinnam, r_chinnam@wayne.edu and Dr. Gluesing, j.gluesing@wayne.edu. Or contact: get_info@wayne.edu.

APPLICATION CHECKLIST:
1. Statement of Purpose—Approximately 2 pages, addressing the following:
   - Why you are a good candidate for a Ph.D. program
   - What you want to get from this program
   - Why you want to be in the program
   - What you bring to the program

2. Two Letters of Recommendation—Addressing the following:
   - Letters of recommendation from senior leaders
   - The recommender’s name, job title, organization, and mailing address
   - The length of time the recommender has known the applicant
   - The role or capacity of their interaction with applicant
   - Your attitude towards learning
   - Your leadership skills/qualities
   - Your work ethic
   - Your collaboration/teamwork skills
   - Your primary strength that you will bring to the program

3. Resume—Describing your professional experience with job titles and years in each position with an explanation of managerial responsibilities as well as any global experience.

4. Transcripts—Provide official transcripts from each post-secondary school you have attended.

5. Application/Fee—Submit the standard Wayne State University graduate application, available at the following: http://gradadmissions.wayne.edu/apply.php
More information is available on the GET program website:

www.ise.wayne.edu/get
The Brochure Design: The oceans and sky are complex living systems with polar characteristics. They mirror each other while connecting all lands. These complex systems are separated by the horizon. In every composition, the horizon becomes a global unifying component among these ever changing natural elements. Furthermore, we see artifacts (man, plants, birds or manmade-objects) frequenting these compositions at will.

The horizon reflects continuity and omnipresence while oceans and sky represent a source of uncertainty, energy, abundance and diversity. Each composition framed in this brochure reveals the temporal dynamics in relation to texture, color, artifacts, time and energy. The horizon, ocean and sky together encompass the structure of the Global Executive Track (GET) while the resulting compositions frame the essence of the GET program.

Amit Bapat, Designer