

MISSOURI DEPARTMENT OF HIGHER EDUCATION

FORM NP: NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s): Washington University

Program Title: Master of Cyber Security Management

Degree/Certificate: degree

Options:

Delivery Site(s): Washington University, Danforth Campus

CIP Classification: 11.1003

Implementation Date: August 27, 2013

Cooperative Partners:

Expected Date of First Graduation: June, 2016

AUTHORIZATION

Name/Title of Institutional Officer:

Edward S. Macias, Provost

Signature



Date

April 8, 2013

Person to Contact for More Information:

Susan E. Hosack, University Registrar

Telephone: (314) 935-5567

MISSOURI DEPARTMENT OF HIGHER EDUCATION

Form SE: STUDENT ENROLLMENT PROJECTIONS

Year	1	2	3	4	5
Full Time	0	0	0	0	0
Part Time	20	30	35	40	50
Total	20	30	35	40	50

Form PS: PROGRAM STRUCTURE

A. Total credits required for graduation: 36

B. Residency requirements, if any: _____

C. General education: Total credits: _____ (SEE ATTACHED)

Courses (specific courses OR distribution area and credits):

_____ cr. _____ cr. _____ cr.

_____ cr. _____ cr. _____ cr.

D. Major requirements: Total credits: _____

_____ cr. _____ cr. _____ cr.

_____ cr. _____ cr. _____ cr.

E. Free elective credits: _____ (Sum of C, D, and E should equal A.)

F. Requirements for thesis, internship or other capstone experience: (SEE ATTACHED)

G. Any unique features such as interdepartmental cooperation:

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Form PG: PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

Institution Name: Washington University

Program Name: Master of Cyber Security Management

Date: April 5, 2013

(Although all of the following guidelines may not be applicable to the proposed program, please carefully consider the elements in each area and respond as completely as possible in the format below. Quantification of performance goals should be included wherever possible.)

Student Preparation (SEE ATTACHED)

- Any special admissions procedures or student qualifications required for this program which exceed regular university admissions, standards, e.g., ACT score, completion of core curriculum, portfolio, personal interview, etc. Please note if no special preparation will be required.
- Characteristics of a specific population to be served, if applicable.

Faculty Characteristics (SEE ATTACHED)

- Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.
- Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.
- Expectations for professional activities, special student contact, teaching/learning innovation.

Enrollment Projections (SEE ATTACHED)

- Student FTE majoring in program by the end of five years.
- Percent of full time and part time enrollment by the end of five years.

Student and Program Outcomes (SEE ATTACHED)

- Number of graduates per annum at three and five years after implementation.
- Special skills specific to the program.
- Proportion of students who will achieve licensing, certification, or registration.
- Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.
- Placement rates in related fields, in other fields, unemployed.
- Transfer rates, continuous study.

Program Accreditation (SEE ATTACHED)

- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. If there are no plans to seek specialized accreditation, please provide reasons.

Alumni and Employer Survey (SEE ATTACHED)

- Expected satisfaction rates for alumni, including timing and method of surveys
- Expected satisfaction rates for employers, including timing and method of surveys

Proposal for

Masters in Cyber Security Management (MCSM)

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Introduction

The Master in Cyber Security Management is a 36 credit hour master's degree program designed for working professionals and full-time students who wish to increase their knowledge and skills related to the field of information and cyber security management.

Cyber security knowledge and management practices are at the forefront of all public and private institutions in today's global economy and enterprise management. The fundamental shifts in business focus spearheaded by the explosion of the internet and social media (Bring Your Own Device) has driven the need for the development of Cyber Security organizations, infrastructure and organizational awareness. These cornerstones of the new cultural focus are becoming a fundamental part of the corporate dashboard of critical business metrics. The complexity of attacks on the intellectual and infrastructure properties of the enterprise is increasing exponentially. The only increase in the Federal Government Department of Defense FY14 budget is in the area of Information and Cyber security. Enterprises are rapidly building or expanding their cyber security organizations and are seeking qualified professionals to staff these teams.

St. Louis Region companies such as Federal Reserve Bank, Centenne, Monsanto, Bunge, Boeing, First Bank, AT&T, Sigman Aldridge, Emerson, E.D. Jones, Mercy, Mastercard, AB-InBev, Maritz, Scottrade, RGA, Doe Run, Ameren, ICL, Brown Shoe, are actively recruiting cyber professionals for their organizations.

This program will enable students to conceive, plan, create, execute, use, test, analyze, support, and manage an Information Security system throughout its entire life cycle.

Part I

Program Overview

Program Purpose:

Examine the impact that Information Security as a discipline and Cyber Security Management as a practicum (IS/CSM) has on enterprise tactical, ethical, cultural and strategic performance from a managerial and executive perspective. Standard frameworks will be used with formal research, published and real-life case studies as critical learning components.

Mission of University:

This program will serve Washington University's mission to service local community educational needs, and maintain good relations with local and region-wide industries. The program will increase the University's reach into a new emerging area in the enterprise that will enrich middle level technical, engineering and management positions.

Program Background:

This Masters program grew out of recent input from not only the Master of Information Management (MIM) Advisory Council but also from Information Security professionals through the Center for the Advancement of Information Technology (CAIT) Information Security Roundtable. The issues confronting Cyber Security managers are increasing at an exponential rate. The current Masters in Information Management (MIM) program, which was started in 1974, does not address this current evolution in the cyber security management field. Coupled with that fact, the ICyber Security organizations of some firms are reporting directly into other C-Suite executives and are peers to the Chief Information Officer of the firm.

This proposed degree is meant to add more value to the overall School of Engineering by teaching subject matter that is necessary to meet the needs of a new organizational foundation and discipline in the fast moving global technology sector.

Department Proposing:

As a part of the School of Engineering and Applied Science the Henry Edwin Sever Institute is sponsoring this new program. The department contains program directors, advisors, and support staff all focused on achieving the mission of Henry Edwin Sever Institute.

Part II

Need for new Degree Program

Audience:

Information Security working professionals with the need for understanding and applying approaches used by management and executives in cyber security environments. The program grew out of a need voiced by not only alumni and current students of the Henry Edwin Sever Institute, but also from discussions with Information Security (ISO) leaders from some of the St. Louis Region's largest employers. The need is to provide a regimen of topics that assists the Security professional in understanding how to ascertain which cyber security solution will best serve their business constituents. To equip the ISO professional with the knowledge to develop an information defense, strategy while in concert with the culture of the Enterprise.

Every major organization contains hundreds of people that could be served by this program. Many of these organizations are currently developing their first Information Security team and have found that there is a shortage of trained cyber security professionals. With the growing number and voracity of cyber-attacks on the Enterprise, many Board of Directors are mandating a more robust and comprehensive Cyber Security strategy and program.

Existing University Programs:

A similar University program does not currently exist.

Competence:

One of the major strengths of offering MCSM through the Sever Institute in the School of Engineering is that the MCSM program will be taught by adjunct faculty who are presently in successful mid to senior level careers in many of the St. Louis Region's top companies. The current faculty teaching in the Cyber Security curriculum are Chief Information Security and Chief Technology Officers of three of St. Louis leading enterprises. The skills and knowledge that they bring to the classroom are proven in the marketplace and honed by not only success but also by failure. This brings a real world sense to the students that their evaluations respect and seek.

Students and Demand:

Over 20 Chief Information Officers (CIOs) within the St. Louis area have been briefed on the program and expressed resounding support. The companies briefed include Federal Reserve Bank, Centenne, Monsanto, Bunge, Boeing, First Bank, AT&T, Sigman Aldridge, Emerson, E.D. Jones, Mercy, Mastercard, AB-InBev, Maritz, Scottrade, RGA, Doe Run, Ameren, ICL, Brown Shoe and the FBI.

The initial course in the Information Security curriculum had to be expanded beyond the traditional cap of 20 students to accommodate the additional 10 CSE students who wished to sign up for the course. This need prompts the Sever Institute to include students in the Computer Science and Engineering department of the School of Engineering and Applied Science into this program. This need is manifested in the first class by the students echoing the need for more information about this emerging field of study.

Part III

Program Requirements

Degree requirements:

- 36 units of graduate level credit (500-level) approved by the program director, all of which must be taken for a grade. At least 15 of the 36 hours must be completed from the following courses:
 1. Information Security Fundamentals (T81-561) - Existing
 2. A View from the Bridge: Building and Leading an Information Security Team (T81-562) – Existing
 3. The Art and Science of Project Risk Management (T81-5502) - Existing
 4. Incidence Response and Information Warfare (T81-xxx) – New
 5. Network Security Management-The ITIL Approach (T81-xxx) - New
 6. Cyber Security Capstone Project * - New

*The Cyber Security Capstone Project will be integrated throughout the program with successful presentation and defense of the project to a panel of Information Security Executives as the final determinant for completion of the Master in Cyber Security Management Program.

**** See appendix A for course descriptions.**

One alternative course may be substituted provided the course has content relative to Information Security.

Completion:

Cohort teams for learning and collaboration

Each person will be assigned to a team at the beginning of the program and continue with that team until completion of the certificate.

Proposed Course Track:

(S) – Sever course

(O) - Olin Business course

- **Complete 9 credit hours of the following Business and Organization Courses :**
(These courses are offered by either Olin Business School or Sever equivalents)
 - Financial Principles of the Company (S)
 - Ethical Issues in Managerial Decision Making (O)
 - Law and Business Management (O)
 - Organizational Behavior (O)
 - Organizational Design (O)
 - Introduction to Management and Strategy (O)
 - Effective Management Communications (O)

Master in Cyber Security Management (MCSM)

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All students in the MCSM program will be required to take the Capstone course as their final course in the program

- **Capstone Course (S) 3 credit hours**

- **Cyber Security Management Focus Courses (select 4 from the following) 12 credit hours**
 - Information Security Fundamentals (S)
 - View from the Bridge: Leading an Information Security Team (S)
 - Information Warfare and Incidence Response (S)
 - Network Security (S)
 - Art and Science of Risk Management (S)
 - Emerging Technologies (S)

- **Electives : Select four of the following: 12 credit hours**
 - Fundamentals of Computer Science (CSE)
 - Strategic Quality Management (O)
 - Human Performance in Engineering (S)
 - Life Cycle Cost Analysis (S)
 - Technology Change Management (S)
 - Principles of Strategic Planning (S)
 - Seminar in Enterprise Transformation (S)
 - Managing Power and Politics (O)
 - Executive Perspectives for Technical Professionals (S)
 - Strategic Management of Technology (S)

Overall GPA of 2.75 or higher

PART IV

Selection of Candidates and Admission Criteria

Selection of Candidates and Admission Criteria:

The typical candidate for the MCSM program must have an undergraduate degree from an accredited institution of higher learning with a minimum of 5 years business experience. The candidates for this program will have three letters of recommendations and an interview with the Program Coordinator of the MCSM Program

Application Review Process:

A regular Sever Institute application for graduate study will be used (available online). Each application will be reviewed by the program coordinator, The MCSM program director and the Faculty Director of Sever Programs will make the final admission decision. A rolling review process will be used to provide earliest feedback to the candidates and keep the class size manageable.

PART V

Resources and Support

Logistics:

School of Engineering will provide classroom and other necessary teaching resources. These include a normally equipped classroom with furniture suitable for extended seating times.

Core Faculty:

R. David Hulsey, Chief Information Security Officer, AT&T & Adjunct Professor (Sever Institute)
Dustin Wilcox, Chief Information Security Officer, Centenne & Adjunct Professor (Sever Institute)
Craig Byrkit, Special Task Force Leader, FBI & Adjunct Professor (Sever Institute)
Bryan Doerr, Chief Technology Officer (retired), Savvis Corporation
Mike McDermid, USAF Colonel (retired), Scott AFB

Tuition:

Standard Sever Institute part-time graduate tuition rate will apply to the program and collected in normal semester fashion.

PART VI

Program Administration

General Administration:

The program will be administered by the Henry Edwin Sever Institute within the School of Engineering and Applied Science.

Program Coordinator:

Jack Zaloudek, MBA
Lecturer and Program Director for Master in Information Management (MIM)
School of Engineering and Applied Science

Student Performance:

Individual and group assignments will be given in each class, with standard letter grading (A – F) with each student receiving a grade for each course. Student progress will be measured by these grades according the standard grading standards for the School of Engineering and Applied Science.

Advising:

Sever Institute regular advising for part-time working professionals will be provided for students.

PART VII

Evaluation of Program

Administrative:

Each of the courses will be monitored and evaluated (in real-time) as to content, relationship to syllabus (business need) and student's on-going review of the appropriateness of the course to the current business realities and complexities. The guest executive lecturers will be de-briefed as to their impressions of the students and the depth of the student's participation.

Faculty Director of Sever Programs and Program Director will review these evaluations at the end of each semester and provide feedback to instructors. This will include evaluation of guest lecturers and the topics of case studies and other assignments.

Professional:

At the end of each program completion faculty, industry leaders, and Sever administration will meet and review the program for applicability, quality, and timeliness.

Other:

At the end of each program the class completing the program will be provided the opportunity to give their general feedback to the program director and other faculty members during an open review session.

Appendix A – Course Descriptions

- Financial Principles of the Company (E60-502)

Total Credits: 3

The course is designed to a) provide incoming program enrollees with little or no finance and accounting experience or background with a solid basic understanding of financial accounting concepts with an emphasis on the managerial applications of financial data, b) prepare those incoming students for the more advanced, discipline specific courses offered later in the program and, c) give the those students a grounding in financial concepts that the student can utilize as they advance to higher and more responsible leadership positions post-graduation. The course is divided into three phases. The first consists of introducing and stressing basic financial concepts, rules, and principles. The second phase consists of leveraging that basic skill set to perform and evaluate analysis in the organization. The last phase will be case study driven and will challenge the student to take the lessons of the first two phases, combine that information with already existing experience and background, and develop a business correction plan for an ailing organization.

- Ethical Issues in Managerial Decision Making (MGT 502)

Total Credits 1.5

This course consists of a seminar, which focuses on ethical issues in management. This course is “team taught” and surveys a number of ethical standards or levels by which managers make decisions involving most functional areas of business. Course will emphasize discussion by student of cases and problem situations which confront managers and for which ethical dimensions are a significant part of the business choices. Course grade is determined by class participation and a written summary paper.

- Introduction to Management and Strategy (MGT 530)

Total Credits 1.5

Introduces students to concepts and frameworks that are useful for analyzing and understanding the management of organizations. The underlying theme is understanding how strategies are formed and implemented in corporations. In developing this theme, cases are used to introduce the issues, topics and tools that will be developed in other courses .

- Law and Business Management (MGT511A)

Total Credits 1.5

We will review different rules of substantive law which affect the conduct of individuals and businesses. We will analyze different legal theories and rules of substantive law which regulate the conduct of individuals and businesses and which impose liability for damages on individuals and business entities when those rules are violated. We will survey basic rules of criminal law, intentional torts, and negligence. We

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will next focus on the rules affecting the making and performance of contracts, and the liability which results from breach of contractual relationships. This will include general

contract law, as well as specific rules that exist in the sale of goods and merchandise, and in the purchase, ownership and sale of real property. In addition, we will also analyze and compare the choices available for dispute resolution, including mediation, arbitration, and trial in court

- Organizational Behavior (OB5601)

Total Credits 1.5

Develops conceptual tools and basic skills for managing people in organizations. The course focuses on the basic problems that confront every manager: communicating effectively, negotiating sound agreements that build lasting relationships, managing the inevitable conflicts that arise in every organization and exercising leadership in work teams. 1.5 Credits.

- Organizational Design (OB5602)

Total Credits 1.5

Develops a framework for designing organizational structures to fit critical contingencies such as strategy, competition, size and technology. Also considers the human resource systems appropriate to support different structures, the impact of power and influence on decision making, and the practical problems of implementing large-scale organizational change and reengineering.

- Effective Management Communications (MGT533)

Total Credits 1.5

This course expands MBA candidates' competencies in writing the emphatic and active voice style for different stakeholders, presenting under difficult or unplanned circumstances, evaluating the work of others and delivering constructive feedback, running better meetings, and writing and evaluating strategic documents. MBA candidates benefit from constructive feedback provided by the instructor and an international range of classmates. Assignments are drawn from real organizational cases requiring solid tactical thinking to ensure that communication is received well.

All students in the MEM program will be required to take the Capstone course as their final course in the program

- Capstone Course (S) NEW

The student can select the direction of their course of study by their selection within the Track course areas.

- Art and Science of Risk Management (T81-5502)

Total Credits: 3

This course focuses on why many project managers miss requirements for schedule, budget or even both. The course concentrates on key Risk Management techniques practiced by leading Project and Program Managers and taught through fact filled lecture, case work and project execution as applied to information systems, engineering, financial, product/process and design projects/programs in today's fast moving environment. Students will take away key value propositions including Risk Identification, Risk Quantification, Risk Monitoring, Risk Control and Risk Mitigation. This course will enable the student to address common Scope, Schedule, Quality and Cost risk events that occur on complex projects. Project Risk Management examines the types of risk, with a focus on understanding the process of risk identification, assessment, prevention, mitigation, and recovery; governance, auditing, and control of the confidentiality; integrity; and availability of data. Using common operational, strategic, tactical, and technological scenarios, the coursework provides a comprehensive approach to the challenges faced by managers where global data is readily available, risk is pervasive, regulations are ever-increasing, and the threat of disruption from potential crises is real.

- Emerging Technologies & Innovation (T81-581B)

Total Credits: 3

Understanding the role that new technologies can play in achieving the strategic vision and thus shareholder value of the firm will be the focus of this course. This includes reviewing appropriate ways of judging a technology and whether a re-positioned technology can drive business value. Students will participate in a process of discovery and judgment rationalization that will lead to understanding how to bring together the technical and commercial worlds in a profitable way. A discussion of the key concepts that it would take to distinguish between activities and outcomes. How do you distinguish between discoveries and technologies add value? Technological innovations (outcomes) are normally the result of product, process, market development and administrative capabilities. A discussion on strategy, visioning, formulation and execution. How does innovation and growth enter into it? Innovation and growth innovation in design; interaction with customers; in business processes; in management thinking? How do you build and innovation strategy will be the capstone of the course.

- Information Security Fundamentals (INFO 560)

Total Credits: 3

Information security is paramount to the health of a successful enterprise. Learn what it takes to manage and operate an information security program in an enterprise. The focus is on areas such as risk assessment, risk management, incident handling and business continuity planning. Learn the vocabulary, vernacular and terminology used in the information security space. Learn what keeps Chief Security Officers, their

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teams and the business clients they serve "awake at night", and what you can do, as an information security professional to protect your clients

- A View from the Bridge: Leading an Information Security Team (INFO 561)

Total Credits: 3

This class discusses the "How-To's" in developing, organizing, staffing and leading an Information Security organization from inception through maturity. How it is supported by the CSIS Top 20 Critical Controls will also be a focal point of the course. We will discuss how to manage the harmony between regulatory standards, information security best practices and organizational practices and procedures in establishing and leading an effective Cyber Security organization. "Because organizations and their information systems constantly change, the activities within the security management process must be revised continuously, in order to stay up-to-date and effective. Security management is a continuous process and it can be compared to W. Edwards Deming's Quality Circle (Plan, Do, Check, Act)." (Control Case International 2012). Students will study initial security policies that stipulate requirements about ethics, confidentiality and integrity. Techniques for implementing and technical controls for enforcing these policies are investigated, including, access control mechanisms, user authentication, configuration and vulnerability management techniques and networking tools such as firewalls and intrusion detection systems. This course explores, more deeply, the principles of information technology governance, focusing on IT control objectives (COBIT) and related internal controls. Coursework provides a deeper understanding of best practices for managing cyber security processes and meeting multiple needs of enterprise management by balancing the void between business risks, technical issues, control needs, and reporting metrics.

- Network Security (NEW)

Total Credits: 3

Some of today's most damaging attacks on computer systems involve the exploitation of network infrastructure, either as the target of attack or as a vehicle to advance attacks on end systems. This course provides an in-depth study of the ITIL methodology in securing the network against various attack techniques. It will explore ITIL methods to defend against them. Topics include firewalls and virtual private networks; network intrusion detection; denial of service (DoS) and distributed denial-of-service (DDoS) attacks; DoS and DDoS detection and reaction; worm and virus propagation; tracing the source of attacks; traffic analysis; techniques for hiding the source or destination of network traffic; secure routing protocols; protocol scrubbing; and advanced techniques for reacting to network attacks

- Information Warfare and Incidence Response (NEW)

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Total Credits: 3

This course will provide the student with a basic understanding of information warfare. This course will build from a strategic understanding of warfare as reflected in the information realm. It will discuss both theoretical and practical aspects of dealing with information warfare. Included will be a discussion of how Information Warfare differs

from cyber-crime, cyber-terrorism and other forms of on-line conflict. The course will equip the student with the current practices in detecting and mitigating incidences and the communication strategies to employ in educating not only senior management but also the employee body at large. Included will be best practices to design and implement an employee awareness campaign on Incidence Response.

- Fundamentals of Computer Science (CSE502N)

Total Credits: 3

This course, intended for graduate students without a computer science background, covers the core components seen in a computer science undergraduate curriculum on which our graduate level courses rely. Topics include fundamental algorithms, data structures, proof techniques, computational models, machine organization, and software design and implementation.

- Strategic Quality Management (OMM 572)

Total Credits 3

Discusses the theory and practice of quality management in the business world. Covers operations and marketing issues that are typical for manufacturing and service organizations, a cross-functional perspective emphasizing the interactions between the operations and marketing decisions. Topics include quality strategies and competition; organization and incentives for quality enhancement (the approaches of Crosby, Deming, Feigenbaum, Ishikawa, and Juran); quality-function deployment; process mapping; and the role of top management.

- Human Performance in Engineering (T55-5503)

Total Credits: 3

This course highlights the management of engineers, scientists, and technology-based organizations; facilitated by an understanding of individual, group, and organizational behavior to enhance organizational performance. Topics include: leadership, goals, motivation and performance, management of change, conflict and effectiveness, organizational development and work design.

- Technology Change Management (T81-503)

Total Credits: 3

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This course focuses on how innovations, such as new technologies, find their way into organizations through managerial approaches. Topics will include assimilation and diffusion of technology, effects of technology on organizations and organizations on technology, and how organizations may be analyzed to assess the role of innovations. Emphasis will be placed on how to understand the organization's social system and what can be done to prepare it for an innovation. Disruptive technologies, organizational culture, and how organizations change will also be covered.

- Strategic Management of Technology (T55-522A)

Total Credits: 3

Analytical methods for strategic management are reviewed. Technology strategy is linked to the strategic plan for the organization, and methods to accomplish this linkage are developed. Factors that characterize and encourage innovation are discussed. A process for managing and integrating new technology into the strategic process is developed. Throughout the course, cases are used to analyze and demonstrate the several elements of strategic management of technology. Prerequisite: graduate standing; permission of instructor required background or coursework in presentation skills is recommended.

- Executive Perspectives for Technical Professionals (T55-524)

Total Credits: 3

Executive leadership is fundamentally dealing with human emotions and relationships. Technical and other professionals are challenged in this course to think from an executive leadership position. Being able to assess and lead other people requires balancing existing realities with new visions and moving people to these new visions. Issues addressing executive leadership include: Executive competencies, consulting in executive environments, re-initiating strategic moves, leadership development, succession planning, and enterprise leadership political skills. These topics are explored through lectures, case studies, and in-class discussions with industry executives.

- Managing Power and Politics (OB 523)

Total Credits 3

The use of power and politics is inevitable in modern organizations – and the higher one goes the more of it one encounters. Therefore, the development of real competency in managing power and influence can materially enhance career progression. The objective of this course is to develop such competency through the use of learner – centered instruction, which includes actual application of concepts through class discussion of case histories and the use of a learning journal. The content of the course includes: why power and politics occur; when are they particularly prevalent; what are the sources of power; how to build power throughout ones career; common influence tactics; the importance of political “fit” in job search, and; how to avoid 17 political mistakes in a new position.

- Principles of Strategic Planning (T55-502)

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Total Credits: 3

The process of management is interwoven with strategic planning, which is developed in detail. The engineering and technology functions are linked to business policy. The strategic management process is introduced. Fundamental analytical tools for strategic decisions are addressed. Analysis of selected cases applies the conceptual framework.

- Seminar in Enterprise Transformation (T81-507)

Total Credits: 3

The modern enterprise relies heavily on information management. As enterprises transform to keep pace with business realities such as globalization, mergers/acquisitions, and proliferation of new business models, management needs to reconsider technology infrastructures, social infrastructures, re-engineering business processes, outsourcing, and measuring/managing technology knowledge. The roles of CIOs and IT professionals, power teams, and leadership issues concerning change will be covered.

- Life Cycle Cost Analysis (NEW)

Total Credits: 3

This course will introduce the student to the discipline of Life Cycle Cost Estimating and Analysis with a focus on applying that information to Program Management Decision Making, Strategy and Managing the program team. The course will be a mix of lecture, classroom discussion and example case studies (worked during class time). The majority of the applied mathematics within this course will be demonstrated on the personal computer using Microsoft Excel software. It is strongly recommended that students bring their own laptops (with Microsoft Excel installed) in order to work along with the example cases.