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# **Graduate Degree Programs**

# Biomedical Engineering *Master of Science*

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Master of Science degree in Biomedical Engineering (BME) is intended to prepare individuals with a strong scientific and technical background for entry into Biomedical Engineering field at an advanced level and for further study leading to doctorate. Admission to the interdisciplinary BME program requires an undergraduate background that includes elementary coursework in biomedical engineering, biotechnology, biology, clinical science, pharmaceutical science and also includes any branch of science and engineering that permeates through the Fundamentals and advanced courses in engineering and the life sciences. The program offers innovative educational strategy that integrates biological sciences and engineering, and applies engineering tools, methods and practices to solve problems in biology and medicine. Graduates of our programs are expected to be highly-skilled biomedical engineers, and scientists who understand the ethical, social and economic implications of their work. The following fundamental course work has been identified to benefit the students most if they have them in their undergraduate degrees.

- Biomedical Engineering and Engineering
- Tissue Engineering
- Bioelectronics
- Tissue Culture
- Physiology

Applicants with superior academic credentials but lacking the required background can be admitted subject to their taking the necessary preparatory courses. Applicants are expected to have an average B or better in their undergraduate course work. Department offers the unique opportunity to its graduate students the education and research on how to integrate several engineering discipline principles in biomedical engineering.

The Department also offers, as an integral part of the Biomedical Engineering Masters Degree, the opportunity to specialize in several concentration areas.

1. Computer communication and networking in biomedical engineering
2. Biorobotics and automation
3. Biomedical Materials and Engineering
4. Bioelectronics
5. Biotechnology
6. Biomedical signal and Image Processing
7. Wireless and mobile communication pertaining to Biomedical Engineering
8. Bioinformatics
9. Tissue Engineering

In addition the department also offers the opportunity to acquire dual graduate degree with electrical engineering (dual MS degree in BME/ELEG). Candidates for the dual Masters Degree programs are typically required to complete a total of 49 credit hours to satisfy the requirement of two Masters Degrees. This implies 15 credit hours in addition to the 34 credits required for the MS degree in Biomedical Engineering.

## Learning Outcomes

Consistent with the university's vision, and with the missions of the School of Engineering and the Biomedical Engineering Program, the educational objectives for the Master of Science in Biomedical Engineering program were established as follows:

- Graduates of the BME program will have a sound integrated knowledge of science and engineering fundamentals with respect to the biomedical issues.
- Graduates will be proficient in the use of modern techniques, tools, procedures, and information sources which are useful in the definition and solution of problems in biomedical engineering.
- Graduates will have the ability to apply their scientific knowledge and engineering tools and techniques to design useful and economically feasible novel materials, devices, systems and processes which address problems relevant to the fields of biomedical engineering.
- Graduates will have the breadth and depth of knowledge, and a commitment to continued learning, necessary to understand the economic, social, ethical, and aesthetic aspects of their profession and their work, and to effectively communicate the results of their work.

## Course Requirements

### REQUIRED COURSES

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**A. A total of 34 semester hours is required. The core curriculum consists of 16 credits and includes:**

BMEG 565	Biomedical Materials and Engineering (3 credits)
BMEG 412	Bioelectronics (3 credits)
BMEG 580	Tissue Engineering (3 credits)
BMEG 620	Team based research (6 credits)
ENGR 400	Seminar (1 credit)

**B. The remaining 18 credits are elective courses.**

The elective courses may be chosen from the list of BME concentration areas or chosen in consultation with the graduate advisor. The course descriptions are in the Graduate Studies Division section of the Catalog.

**C. A team based research project of 6 credits is compulsory and the course number for that is BMEG 620 as mentioned under core courses**

### CORE COURSES

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BMEG 410	Biosensors
BMEG 412	Introduction to Bioelectronics
BMEG 440	Ergonomic Factors in Design
BMEG 451	Introduction to BioMEMS
BMEG 452	Biomedical Imaging
BMEG 503	Biometrics
BMEG 506	Transport Phenomena in Biological Systems
BMEG 507	Algorithm in Bioinformatics
BMEG 508	Biomechanics
BMEG 511	Design and development of Biomedical Instrument
BMEG 520	Physiology
BMEG 530	Instrumentation and Laboratory Experience
BMEG 531	Robotics in Bioengineering
BMEG 533	Communication Engineering in Biomedical Systems
BMEG 534	Electrochemistry in Biological Systems
BMEG 540	Advanced Cellular and Molecular Biology
BMEG 541	Foundations of Biotechnology and Bio-entrepreneurship
BMEG 546	Biosignal Processing
BMEG 560	Advanced Tissue Engineering
BMEG 569	Advanced Biomedical Materials and Engineering
BMEG 571	Ethical Issues in Biomedical Research

# Business Administration *Master of Business Administration Degree*

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## **The UB MBA Value Proposition**

The Master of Business Administration (MBA) is a valuable education for aspiring and practicing managers in any industry or field of endeavor. The graduate program provides early to mid-career professionals with the breadth and depth of theoretical and practical knowledge and skills that are necessary for effective leadership in an increasingly international and dynamic environment. Our innovative, interdisciplinary, and interactive MBA experience emphasizes leadership, teamwork, analytical thinking, competencies, and communication to give you a competitive edge for success.

## **Program Characteristics**

Although students with work experience will find maximum benefit from the MBA; no previous work experience is required. The curriculum is designed to recognize and accommodate substantial diversity in preparation and experience as well as the different goals and career expectations of students. For this reason, some students may be required to complete preparatory coursework to successfully graduate from the 30-credit MBA program. Flexible course delivery (weekdays and evenings, weekends, summers, and online) enables students to proceed at their desired pace. Most students complete the MBA program in one or two years.

## **Academic Preparation**

Students with undergraduate preparation in a non-business field may be required to complete up to 24 credits of preparatory/foundation coursework. International students with an undergraduate degree that was taught in a language other than English will be required to complete an additional preparatory course (3 credits) in business communication. Students with a strong academic record from an accredited business college may be able to waive equivalent preparatory foundation courses.

## **Eligibility for Waivers in the Preparatory (Foundation) Courses**

**For students with a regionally accredited undergraduate degree taught in English:**

Students with one course in a specific discipline may have the course waived with the exception of accounting, which requires both managerial and financial accounting, and economics, which requires both micro- and macro- economics. All eligible courses require a grade of B- or better.

**For all accepted students that do not meet the criteria stated above:**

Students with two courses in a specific discipline may have the course waived with the exception of accounting, which requires two courses in both managerial and financial accounting, and economics, which requires two courses in both micro- and macro- economics. All eligible courses require a grade of B- or better.

## **Eligibility for Transfer Credits in the 10 upper-level Program Courses**

**For students with graduate coursework from a regionally accredited university:**

No more than two (graduate) courses may be transferred into the MBA program.

## **Preparatory: Acquiring the Foundation for Success (up to 27 Credits)**

This coursework provides the basic fundamentals across the business disciplines that serve as a necessary foundation for the MBA program.

- BUAD400 Business Communication (\*required for international students)
- ACCT400 Accounting
- BLAW400 Business Law & Ethics
- ECON400 Economics

- FIN400 Financial Management
- ITKM400 Information Systems
- MGMT400 Management
- MKTG400 Marketing
- STAT400 Statistics

## **MBA Program Curriculum: (total of 30 credits)**

- Three Components: Core, Concentration, and Capstone

### **Core Courses (15 credits)**

In the five Core courses you will apply the theory from the Preparatory coursework through cases and real-world exercises.

- ACCT505 Managerial & Cost Accounting
- FIN505 Advanced Financial Management & Policy
- ITKM505 Information Systems & Knowledge Management
- MGMT505 Organizational Behavior
- MKTG505 Marketing & Research Methods

### **Concentration Courses (9 credits)**

Because many careers require specialized and in-depth knowledge and skills in specific business areas, the program provides students with the opportunity to complete three courses of in-depth study in an area of their choice.

- Accounting
- Analytics Intelligence
- Entrepreneurship
- Finance
- Human Resources
- International Business
- Management
- Marketing

### **Capstone Courses (6 credits)**

The Capstone experience provides the final integration of student learning across the disciplines and the application of concepts learned to practical and competitive situations.

- Integration
  - o BUCP597 Strategy & Policy

# Business Administration *Master of Business Administration Degree*

- Experiential
  - BUCP599 Internship or
  - BUCP598 Thesis or
  - MGMT582 Small Business & Entrepreneurship Course

## **Progression/Sequence of Coursework**

### **Preparatory coursework is the first step:**

Students should start their studies by completing all necessary Preparatory courses. Students required to take BUAD400 must complete the course in their first semester. Students should complete ACCT400 as soon as possible because it is a prerequisite for FIN400. Once all the Preparatory courses have been completed, students may enter the formal MBA program. Students may take a combination of Preparatory and Core courses during their transition into the Program, but students may not take a Preparatory and advanced class in the same discipline at the same time (e.g. ITKM400 and ITKM505).

Students should begin the formal MBA program by completing the five Core courses (in any order). The two Capstone courses should be taken in the final semester, or final two semesters, and may only be taken once all Core classes have been successfully completed (not concurrently).

## **Multiple Concentrations**

Students may gain additional concentrations by successfully completing three courses in any of the six concentrations. Students may receive a double concentration in their original concentration by taking three additional advanced courses in the discipline.

## **Fulltime Status**

Fulltime status requires three classes per semester (spring and fall). International students on an F1 visa are allowed to take fewer than 9 credits only once during their graduate program after their first semester, which is only permitted in their last semester.

## **Grading Policy**

A grade of C or better is required for credit toward graduation in all prerequisite and program coursework. Students must maintain a semester GPA of 3.0 or better throughout their studies. Those students that earn a GPA below 3.0 will be placed on probation and must comply with the process stated below to successfully maintain proper status. A GPA of 3.0 or better is required to graduate from the MBA program.

## **Requirements for Graduation**

To qualify for the award of the degree of Master of Business Administration, a student must fulfill the following minimum requirements:

1. Admitted to candidacy for the degree in the School of Business.
2. Satisfactorily complete all academic requirements with a cumulative grade point average grade of "B" (CGPA = 3.0) or better.
3. File an application for the award of the degree at the Registrar's Office on or before the date published in the University Calendar.
4. Complete all academic requirements within five (5) years from the date of first registration, unless a petition for extension is granted. Extensions are granted only for compelling reasons.

## **Learning Outcomes**

The first overall objective for the graduate program is for students to understand and apply concepts and skills across basic business disciplines that will enable them to be successful in a dynamic global environment. The second objective is for students to develop the competencies that facilitate student success in business. These objectives are reached by ensuring that students attain the following detailed learning outcomes.

- Demonstrate proficiency in the use of quantitative and qualitative managerial and analytical techniques to improve organizational effectiveness and decision-making.

- Become reflective scholars/practitioners who are able to draw upon and critique business theories, to apply them effectively in the workplace, and to develop their own personal philosophy utilizing high ethical standards.
- Become cognizant at a strategic level of the management disciplines and aware of how these functions, along with their own specific expertise, relate to the overall success of an enterprise.

## **Assessment**

The knowledge and skills gained in the program are evaluated with exams and the application of theories to applied situations presented in cases and projects. Students and the program as a whole will be evaluated and benchmarked with the use of standardized program tests across the basic business disciplines. Students will work in teams on various projects and cases across their business courses. Students will be evaluated by other students and by their professors regarding multiple competencies and will receive cumulative evaluations across courses.

## **M.B.A./Engineering Partnership**

In an arrangement, with the School of Engineering, approved Engineering courses offered by the College of Engineering are available for students in the M.B.A. degree. Specific courses for this study are selected and approved by the student's faculty advisor and the Director of the M.B.A. program.

# Computer Engineering *Master of Science Degree*

Chair: Ausif Mahmood  
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The Master's Degree in Computer Engineering is a course of study intended to prepare individuals whose undergraduate background is in computer or electrical engineering for advanced professional work in the field and for further study leading to the doctorate. Emphasis is placed on current state-of-the-art applications including parallel computing, image processing, VLSI design, sensing, robotics, mobile computing, automation and the like. Admission to the program requires an undergraduate degree in engineering, and includes the following fundamental coursework:

- Programming Languages and Techniques
- Data Structures
- Digital Design
- Digital Design Lab
- Computer Organization
- Microprocessors
- Probability and Statistics

Applicants with superior academic credentials but lacking the required background can be admitted subject to their taking the necessary preparatory courses. Applicants are expected to have an average of B or better in their undergraduate coursework.

The Department also offers, as an integral part of the Computer Engineering Masters Degree, the opportunity to specialize in several concentration areas.

Computer Engineering Concentration areas:

1. Advanced Applications and Systems Programming
2. Bio-Medical Engineering
3. CAD/CAM
4. Computer and Information Security
5. Computer Communications and Networking
6. E-Commerce
7. Microelectronics and Computer Architecture

8. Modern Data Base Systems
9. Robotics and Automation
10. Signal and Image Processing
11. Software Engineering
12. Very Large Scale Integration (VLSI)
13. Wireless and Mobile Communications

Please refer to the Graduate Studies Division Catalog pages for course details of the concentration areas.

In addition, the department also offers the opportunity to acquire dual graduate degrees along with the M.S. degree in Computer Engineering. Candidates for these dual Masters degree programs are typically required to complete a total of 48 credit hours to satisfy the requirements of two Masters degrees. This implies 15 credit hours in addition to the 33 hours required for the M.S. degree in Computer Engineering.

Please refer to the Graduate Studies Division catalogue pages for detailed information on Dual Graduate Degree programs.

Furthermore, customized study plans to allow receiving the Computer Engineering M.S. degree while pursuing either the Ph.D. degree in Computer Science and Engineering or the Ed.D. degree in Education are available. Doctoral students in these two programs should consult their respective doctoral advisors to work on their individualized plans. Further details on the dual M.S. in Computer Engineering degree programs are available in the catalog section on the Graduate Studies Division.

## Program Objectives

Our Computer Science Students will:

- Apply foundational scientific concepts and sound engineering principles efficiently and effectively.
- Be well-educated, highly valued, and successful engineers and scientists.
- Significantly contribute to technical interdisciplinary team projects.
- Professionally communicate technical solutions and results.
- Continue to pursue lifelong multidisciplinary learning as professional engineers and scientists.

## Learning Outcomes

Our Computer Engineering Students will:

1. Demonstrate an in depth and comprehensive understanding of Computer Engineering.
2. Have an enhanced ability to learn, on their own, technical details for which they are responsible.
3. Have an enhanced ability to apply the knowledge learned to solve technical problems that arise in research they conduct or supervise.
4. Have an enhanced ability to study an issue, identify and evaluate alternative actions, propose an optimal course of action.
5. Have an enhanced ability to prepare technical point papers, brief their seniors, and defend their conclusions.

## Course Requirements

### Required courses

**A. A total of 34 semester hours is required. The core curriculum consists of 15 credits and includes:**

CPSC 501	Object Oriented Programming using Software Design Patterns Using C++
CPEG 410	Introduction to Computer Architecture
CPEG 572	Data and Computer Communication
CPEG 448D	Introduction to VLSI Design
or CPEG 447	Logic Synthesis Using FPGAs
ELEG 443	Applied Digital Signal Processing

**B. THE REMAINING 18 CREDITS ARE ELECTIVE COURSES.**

The elective courses may be chosen from the list of Computer Engineering concentration areas or chosen in consultation with the graduate advisor. Also, students are required to take ENGR 400 (Engineering Colloquium).

The course requirements of the concentration areas are described in the Graduate Studies Division section of the catalog.

**C. STUDENTS MUST DO A MASTERS PROJECT (3 CREDIT HOURS) OR THESIS (6 CREDIT HOURS) AS PART OF THE 18 ELECTIVE CREDIT HOURS.**

The concentration areas can be applied to satisfy the requirements of second Masters degree programs of study.

# Computer Science *Master of Science Degree*

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The Master's Degree in Computer Science is intended to prepare individuals with a strong mathematical, scientific, or technical background for entry into the computer science field at an advanced level and for further study leading to the doctorate. Admission to the program requires an undergraduate background that includes elementary physics, calculus sequence, linear algebra, and the following fundamental coursework in computer science:

- Programming Languages and Technique
- Data Structures
- Digital Design
- Discrete Structures
- Computer Organization
- Probability and Statistics

Applicants with superior academic credentials but lacking the required background can be admitted subject to their taking the necessary preparatory courses. Applicants are expected to have an average of B or better in their undergraduate coursework.

The Department also offers, as an integral part of the Computer Science Masters Degree, the opportunity to specialize in several concentration areas.

Computer Science Concentration Areas:

1. Advanced Applications and Systems Programming
2. Bio-Medical Engineering
3. CAD/CAM
4. Computer and Information Security
5. Computer Communications and Networking
6. E-Commerce
7. Microelectronics and Computer Architecture
8. Modern Data Base Systems
9. Robotics and Automation
10. Signal and Image Processing
11. Software Engineering
12. Very Large Scale Integration (VLSI)

13. Wireless and Mobile Communications
- Please refer to the Graduate Studies Division Catalog pages for course details of the concentration areas.

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## **Learning Outcomes**

Our Computer Engineering Students will:

1. Demonstrate an in depth and comprehensive understanding of Computer Science.

2. Have an enhanced ability to learn, on their own, technical details for which they are responsible.
3. Have an enhanced ability to apply the knowledge learned to solve technical problems that arise in research they conduct or supervise.
4. Have an enhanced ability to study an issue, identify and evaluate alternative actions, propose an optimal course of action.
5. Have an enhanced ability to prepare technical point papers, brief their seniors, and defend their conclusions.

## **Course Requirements**

### **REQUIRED COURSES**

#### **A. A TOTAL OF 33 SEMESTER HOURS IS REQUIRED. THE CORE CURRICULUM CONSISTS OF 15 CREDITS AND INCLUDES:**

CPSC 400	Object Oriented Programming Using C++
CPSC 450	Data Base Design
CPSC 502	Analysis of Algorithms
CPSC 503	Operating Systems
CPEG 471	Data and Computer Communication

#### **B. THE REMAINING 18 CREDITS ARE ELECTIVE COURSES.**

The elective courses may be chosen from the list of Computer Science concentration areas or chosen in consultation with the graduate advisor.

The course requirements of the concentration areas are described in the Graduate Studies Division section of the catalog.

#### **C. STUDENTS MUST DO A MASTERS PROJECT (3 CREDIT HOURS) OR THESIS (6 CREDIT HOURS) AS PART OF THE 18 ELECTIVE CREDITS HOURS.**

Since July 2004, the Department of Computer Science and Engineering has been offering the full M.S. degree program in Computer Science through distance learning. For more information please contact the department or visit: <http://www.bridgeport.edu/ub/dlearning/>

The concentration areas can be applied to satisfy the requirements of dual Masters degree programs of study.

# Counseling *Master of Science Degree*

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## **Admissions Requirements**

The University has a rolling admissions policy. To be fully admitted applicants must have a bachelor's degree from an accredited college or university with a minimum GPA of 2.75. Applicants are expected to have at least 9 credits of psychology coursework (graduate or undergraduate) such as Personality Theories, Abnormal Psychology, or Clinical Psychology. They must also successfully complete the supplemental application portfolio which includes personal references, a writing assignment, and an official transcript.

## **PROGRAM PREREQUISITES**

Bachelors degree, or its equivalent, from an accredited university or recognized international institution

Undergraduate cumulative grade point average of 2.75 or higher

Nine credits in undergraduate psychology coursework with a grade of B or higher; three of the nine credits may be in an area closely related to psychology

- It is recommended that clinical mental health counseling applicants have three undergraduate credits in either abnormal psychology or psychopathology

## **REQUIRED MATERIALS**

University of Bridgeport graduate application

\$50 application fee (non-refundable)

- Checks or money orders should be made payable to the University of Bridgeport
- Official transcripts from every school attended
- International transcripts must include an official course-by-course evaluation

of all academic work from an accredited academic evaluating service

Two recommendation letters

- Letters must be signed and come from employers, professors or professional associates
- Clinical mental health counseling applicants must obtain at least one recommendation letter from someone who can attest to field experience

## **PERSONAL STATEMENT**

In 250-500 words, detail your interest in the counseling program, your relevant academic and personal experience, and describe your professional plans

- Resume
- Interview

Once all required materials are received, you will be contacted to meet with the review committee

## **DEADLINES**

Completed application and all supporting documents must be received by:

May 1 for priority consideration, August 1 (final deadline) for the fall semester

October 1 for priority consideration, December 15 (final deadline) for the spring semester

*It is highly recommended that you meet our priority deadline as program space is limited. If admitted, priority candidates receive preferred course registration.*

In addition to the general admissions requirements listed above, admission decisions for the Clinical Mental Health Counseling concentration will give careful consideration to indicators of candidate life experience and maturity (e.g., successful work experience in a human service field). A personal interview is also required.

Applicants who hold a bachelor's degree from an accredited college or university but do not meet one or more of the above criteria may be admitted provisionally. Those without the recommended background in Psychology will be required to take additional psychology-related coursework as part of their degree program. Those admitted on provisional status may be fully admitted once they have completed 12 credits of coursework with a grade point average of 3.0 or higher.

Although students may enter the program in any term, it is advised to begin in the fall. Students who begin in the spring or summer may have limited course options.

## **Programs**

The Division of Counseling offers a Master of Science degree in Counseling with concentrations in Clinical Mental Health Counseling and College Student Personnel. In addition to the master's degree, a Certificate of Advanced Study (CAS) is offered for those who wish to take specialized courses beyond the masters and/or complete licensure requirements. Students who apply to one program and wish to transfer to another must apply to change programs.

Upon entry into a program, students plan an individualized plan of studies with their advisor in which graduate transfer credit of no more than six credits may be included. While students can take courses at their own pace, all of the counseling degree programs require a minimum of two years to complete. There is a set sequence of courses for each concentration and some courses have prerequisites. Courses are offered once a year, typically in the evening or on weekends. In addition, there is a seven year time limit for completion of all degree requirements.

Typically students take two or three courses each term. Many students have full or part-time employment. Although it is possible to take all course work in the late afternoon, evening, or on weekends, some additional time during the day may be required to meet course expectations. This is especially true for internship placement.

## **Professional Licensure**

Students interested in licensure should consult the state in which they wish to practice for specific requirements. The State of Connecticut requires 60 credit masters degree.. Specific areas of coursework are also required. In addition, candidates for licensure must complete supervised clinical experiences and obtain a qualifying score on a standardized examination. Students who wish to pursue licensure should select the Clinical Mental Health Counseling concentration.

## **Certificate of Advanced Study**

For individuals who hold a master's degree in Counseling or a closely related field but lack

# Counseling *Master of Science Degree*

one or more of the requirements for licensure as a professional counselor, the Division of Counseling and Human Resources offers a specialized program of study leading to a Certificate of Advanced Study (CAS) in Clinical Mental Health Counseling. The requirements of this program are individualized to the needs and goals of each student and consist of 30 credits.

## Practicum

The practicum is designed to allow students to develop their counseling skills in a closely supervised setting. The course instructor, student's advisor, and site supervisor determine appropriate practicum activities. Activities could include observing/shadowing, attending staff meetings, tutoring, advising, interviewing professional staff members, studying materials and procedure manuals, and other support functions.

## Internship

Following the practicum and pre requisite courses, students will pursue an internship. The goal of the internship is to further develop and refine the skills established during practicum. You are eligible for the internship component of your program after completing the required coursework and approval from faculty. The internship is the heart of the master's degree training program in Counseling at the University of Bridgeport (UB). It provides a venue within which students receive the guidance necessary for development as an entry-level counselor. Program faculties provide didactic and experiential training, which serves as the foundation for the development of skills necessary for independent work in clinical settings. The internship operationalizes this training and, in the person of the clinical supervisor, personifies the profession with which the intern ideally identifies. Therefore, careful consideration should be given to the type of internship site that you choose and you should discuss this closely with your advisor. Successful internship training can only occur when program faculty and site supervisors form a close collaborative relationship with the mission of providing quality training and the development of the intern as a whole person. Internships are not guaranteed and approval to attend internship is dependent upon students' performance both interpersonally and academically. Internships must be completed over two semesters, typically over

the course of a full academic year, starting in the fall and ending in the spring.

## Learning Outcomes

Graduates in Clinical Mental Health Counseling will:

- Evidence understanding of the role of a counselor; including ethical practice, counselor behaviors and professional associations

*As measured by: Internship, Participation in professional associations, C570, C568*

- Demonstrate knowledge, awareness and skills requisite for counseling persons from different cultural contexts and of different levels of ability

*As measured by: C512, C545, Internship, CPCE*

- Apply counseling theories, techniques and intervention to practice; in individual and group settings

*As measured by: C505, C570, Internship, C512, C540*

- Demonstrate knowledge of the ethical use of appraisal instruments

*As measured by: C582, CPCE*

- Demonstrate an ability to diagnose mental health status

*As measured by: C515, Internship*

- Demonstrate an ability to review counseling research and integrate its contribution to specific areas of knowledge

*As measured by: C535, CPCE*

- Demonstrate knowledge of, and skills in Cognitive Behavioral Therapy

*As measured by: C505, C570, Internship*

Graduates in College Student Personnel will:

- Demonstrate knowledge, awareness and skills requisite for working with students from different cultural contexts and of different levels of ability

*As measured by: C545, Internship*

- Demonstrate an ability to review field related research and integrate its contribution to specific areas of knowledge

*As measured by: C536*

- Apply knowledge of counseling theories and developmental theory as well as best practices in Student Affairs and student

*As measured by: Internship, C512, C555, Cumulative Exam*

- Evidence understanding of role of the Student Affairs professional; including ethical

behavior and professional affiliation

*As measured by: Internship, Professional Associations*

- Demonstrated an ability to assess needs of different groups within a particular college environment, develop appropriate program, implement and assess program

*As measured by: Internship*

- Demonstrate understanding of the historical influences that have shaped student affairs practice

*As measured by: C527, Cumulative Exam*

- Demonstrate knowledge of current issues in higher education and the purpose and function of student affairs practice in higher education

*As measured by: C503, C520, Cumulative Exam*

- Demonstrate an ability to integrate the knowledge and awareness gained to individual courses

*As measured by: Cumulative Exam*

Graduates in Human Services will:

- Evidence understanding of the role of a counseling professional; including ethical practice, behaviors and professional associations

*As measured by: Internship, C568, professional associations*

- Demonstrate knowledge, awareness and skills requisite for working with persons from different cultural contexts and of different levels of ability in a counseling setting

*As measured by: C510, C545, Internship*

- Apply counseling theories, techniques and intervention to practice; in individual and group settings

*As measured by: C505, C540, Internship*

- Demonstrate knowledge of the historical influences within human services and the management within the human service environment

*As measured by: C532, C625, C620*

- Demonstrate an ability to review counseling research and integrate its contribution to specific areas of knowledge

*As measured by: C535, Masters Project*

- Demonstrate an ability to integrate the knowledge and awareness gained to individual courses

*As measured by: Internship, Masters Project*



# Counseling *Master of Science Degree*

## Summary of Requirements

Masters students in the Division of Counseling are required to complete the following courses:

### CONCENTRATION IN CLINICAL MENTAL HEALTH COUNSELING (CMHC)

The concentration in Clinical Mental Health Counseling is designed to prepare students for work as mental health counselors and requires advanced coursework in clinical skills, psychopathology, appraisal procedures, addiction, and psychotherapeutic techniques.

	Credit Hours
Coun505	4
Coun568	3
Coun545	3
Coun540	4
Coun610	3
Coun512	3
Coun570	4
Coun582	3
Coun595	3
Coun535	3
Coun552	3
Coun600	4
Coun605	4
Coun585	3
Coun587	3
Coun502	1
Coun515	3
Elective (Practicum)	3
Elective	3
Total	60

### CONCENTRATION IN COLLEGE STUDENT PERSONNEL (CSP)

The concentration in College Student Personnel is designed to prepare students for counseling careers in higher education. It requires advanced coursework in career and lifestyle development, organization and administration of higher education, and college student development.

	Credit Hours
COUN 503	1
COUN 505	4
COUN 512	3
COUN 520	3
COUN 527	3
COUN 536	3
COUN 540	4
COUN 545	3
COUN 552	3
COUN 555	3
COUN 562	3
COUN 601	3
COUN 606	3
COUN 610	3
COUN 615	3
Total	45

# Design Management *Master of Professional Studies Degree*

*Chair:* Alex W. White  
Arnold Bernhard Center  
Telephone: (203) 576-4036  
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alwhite@bridgeport.edu

Design is quickly moving to the center many organizations' core strategy. Such companies achieve a significant competitive advantage through the implementation of effective design thinking. New demands are being placed on designers, and new skills are needed to fully integrate into the business landscape of the 21st century.

Design Management is more than the study of business and design, it is a fundamental belief within an organization that design can improve productivity, create more innovative products, lower operational costs and create a more sustainable work environment. The field of Design Management encompasses every discipline of design, including graphic and communication; industrial design and engineering; architecture and interior; and fashion and textile design.

The MPS Design Management program at Shintaro Akatsu School of Design (SASD) emphasizes the following five core aspects of design and business:

## LEADERSHIP

Design Managers lead teams of designers, which requires a specific set of skills to develop the leadership style that's right for the individual and the team. Additionally, Design Managers are often asked to champion ideas throughout an organization. Both of these types of leadership skills are emphasized in this program, resulting in graduates with strong leadership skills.

## STRATEGY

Design and strategy are deeply connected. Design Managers who graduate from this program will be able to develop concepts that support and promote the core strategy of their organization, and articulate that strategy in a clear and persuasive way.

## MARKETING

Understanding the principles of marketing is critical to effective Design Management. Promotion, product design, package design, and the design of the physical plant

often all fall under the responsibility of the Design Manager. Upon completing the courses in this program, students will have working knowledge of these issues.

## OPERATIONS

Through interactive simulations and case study research, Design Management students gain a deep understanding of the operational procedures within an organization. The courses in this program help students identify, understand, and influence efficient operational practices.

## FINANCE

Students will be able to read and comprehend financial statements such as annual reports, cash flow statements, and balance sheets to more effectively integrate design proposals with business functions within their organization.

## LEGAL

Design Managers are often faced with the protection of intellectual property. The MPS DM program gives students a working knowledge for dealing with design issues of trademarks, copyrights, and patents.

These core skills will give Design Managers who graduate from SASD the tools they need to solve the most pressing design issues of our time, from matters of sustainability to social responsibility and profitability.

## Admissions Requirements

Applicants must possess an undergraduate degree in graphic, industrial, interior, or fashion design, architecture or related design or business fields from an accredited college or university with at least a 2.7/4.0 GPA.

Applicants should have a well-rounded education, as gained through general education courses.

Admissions will consider writing, speaking, and analytical skills, as demonstrated through college-level coursework or professional experience, although professional experience is not a prerequisite for admission.

Applicants must submit a personal essay and two letters of recommendation.

An interview is not required, but is recommended.

A portfolio is not required, but is an advantage in the admissions process.

Evidence of internship, volunteer, or prior employment in design management, marketing, business or a studio settings will be viewed favorably.

Please visit Graduate Admissions for detailed information

<http://www.bridgeport.edu/admissions>.

## International Admissions

<http://www.bridgeport.edu/admissions/international/applying/requirements/graduate.aspx>

## Curriculum

### First Semester

DSNMG 400	Collaborative Design Studio I	2
DSNMG 410	Design Management I	3
MKTG 600	Marketing Concepts (Marketing)	3
MGMT 600	Leadership & Management (Management)	3

### Second Semester

DSNMG 401	Collaborative Design Studio II	2
DSNMG 410	Design Management II	3
BLAW 600	Legal Environment of Business and Ethics (Law)	3
DSNMG 599	Special Projects	2
DSNMG 598	Internship or Coop (Elective*)	1-3

### Third Semester

DSNMG 500	Collaborative Design Studio III	2
DSNMG 511	Design Management III	3
ACCT 600	Financial Accounting (Finance)	3
ITKM 600	Information Systems & Technology	3

### Fourth Semester

DSNMG 501	Collaborative Design Studio IV	2
DSNMG 511	Thesis/Design Management IV	3
MGMT 652	Small Business & Entrepreneurship (Strategy)	3

**or**

DSNMG 580X	New Product Commercialization	3
DSNMG 598	Internship or Coop (Elective*)	1-3

*\*Alternate coursework is an additional graduate-level business course and requires permission of the academic advisor.*

# East Asian and Pacific Rim Studies *Master of Arts Degree*

Dean: Dr. Thomas J. Ward  
 Carlson Hall 235  
 Telephone: (203) 576-4966  
 Fax: (203) 576-4967  
 Email: [ubcpia@bridgeport.edu](mailto:ubcpia@bridgeport.edu)

The Masters of Arts in East Asian and Pacific Rim Studies is designed for those anticipating a future career as a civil servant, a business professional or those planning to teach and research topics related to the Pacific Rim. The Pacific Rim includes the United States, China, Canada, Russia, Japan, the Koreas, Chile, the ASEAN countries and all other members of the Asia Pacific Economic Cooperation (APEC). The curriculum is designed to equip students with the necessary foundations in language, religion, political economy, culture and history that would allow students to have the bases needed to function effectively as a professional in the Pacific Rim. The program is interdisciplinary in nature. It requires a working knowledge of at least English and one East Asian language or Russian. The program emphasizes the development of skills in social science research methods, in political economy and an understanding of the religions, cultures and the major historical developments of the region. In addition to the core courses, students in the program will also develop expertise in one of four areas: Business, Global Communications, Diplomacy or Development.

## Learning Objectives

The program has the following learning Objectives:

- Introducing and comparing extant models of socioeconomic development with a special focus on those development models that have been used successfully in the Pacific Rim;
- Introducing the Sociopolitical Implications of the religions that are common in the Pacific region;
- Introducing and comparing models of trade;
- Equipping students with the quantitative and qualitative research skills needed to undertake effective planning, analysis and implementation of projects;

- Identifying and fostering an appreciation of the prerequisites for successful governance and amiable trade practices within developing countries;
- Development of skills in negotiation and in conflict resolution;
- Development of practical skills in problem solving and in project management through an internship in the Pacific Rim. US students will be expected to do their internship in Northeast or Southeast Asia and students from Asia will be encouraged to pursue an internship in Latin America or in a country other than their own in East Asia;
- Development of a at least a level 2 competency of an East Asian language (normally Chinese (Mandarin). Korean or Japanese or Russian.

The Masters Degree offers four potential tracks and students should choose from one of the following:

### CONFLICT ANALYSIS AND RESOLUTION TRACK (CULTURE, PEACE AND DEVELOPMENT)

For those interested in conflict management.

### INTERNATIONAL POLITICAL ECONOMY AND DEVELOPMENT TRACK

For those interested in development and its challenges.

### GLOBAL MANAGEMENT TRACK

For those interested in working in the commercial domain.

### GLOBAL COMMUNICATION

For those interested in working in the field of public diplomacy or media relations.

## Course of Study

Sample Curriculum Sequence:  
 Curriculum: East Asian and Pacific Rim Studies Program requires a minimum of 36 credit hours

### SEMESTER I

(For All Tracks)

GLDP/EAPRS 501	Research Methods	3
GLDP/EAPRS 522	Conflict Analysis and Resolution	3
GLDP/EAPRS 528	Sociopolitical Implications of the World's Religions	3

### SEMESTER II

EAPRS 530	Pacific Rim Culture and Development	3
EAPRS 542	Political and Economic Integration of the Pacific Rim	3

#### Concentration A: Negotiations and Diplomacy

Choose One

GMCS 557	Political Communication and Governance	3
EAPRS 563	Business and Diplomacy—East Asia vs the West	3
GLDP 580	Advanced Diplomacy	3
One Course in one Concentration B, C or D		3

#### Concentration B: International Political Economy and Development

Choose One

GLDP 560	Sustainable Development	3
EAPRS 525	Models of Good Governance in the Asia-Pacific Region	3
EAPRS 563	Business and Diplomacy—East Asia vs. the West	3

Or One Course in Concentration A, C or D if the student has not yet completed this requirement.

#### Concentration C: Global Management Track

Choose One

MGMT 530	Leadership, Teams & Managing Change	3
MGMT 539	International Issues	3
MKTG 560	Global Market Management*	3
One Course in Concentration A, B or D if the student has not yet completed this requirement		3

#### Concentration D: Global Communication Track

Choose One

GMCS 537	Global Communication and Mass Media	3
GMCS 543	Communication and National Development	3
GMCS 557	Political Communication and Governance	3
One Course in Concentration A, B or C if not yet completed		3

### SEMESTER III

EAPRS 591	Internship	3
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### SEMESTER IV

#### Concentration A: Negotiations and Diplomacy

Choose Three

GMCS 557	Political Communication and Governance	3
EAPRS 563	Business and Diplomacy—East Asia vs. the West	3
GLDP 580	Advanced Diplomacy	3
One Course in one Concentration B, C or D		3

# East Asian and Pacific Rim Studies *Master of Arts Degree*

## Concentration B: International Political Economy and Development

Choose Three		
GLDP 560	Sustainable Development	3
EAPRS 525	Models of Good Governance in the Asia-Pacific Region	3
EAPRS 563	Business and Diplomacy—East Asia vs. the West	3
One Course in Concentration A, C or D if student has not yet completed this requirement		3

## Concentration C: Global Management Track

Choose Three		
MGMT 530	Leadership, Teams & Managing Change	3
MGMT 539	International Issues	3
MKTG 560	Global Market Management*	3
One Course in Concentration A, B or D if the student has not yet completed this requirement		3

## Concentration D: Global Communication Track

Choose Three		
EAPRS 537	Global Communication and Mass Media	3
GMCS 543	Communication and National Development	3
GMCS 557	Political Communication and Governance	3
One Course in Concentration A, B or C if not yet completed		3

## SEMESTER V

EAPRS 598	Tutorial	3
EAPRS 599	Thesis	3

## ENGLISH LANGUAGE REQUIREMENT

For applicants whose native language is not English, a minimum score of 213 (computer) or 550 (paper) on the TOEFL (Test of English as a Foreign Language) is required. Exception to these requirements will be considered on a case-by-case basis in consultation with the Director of the University's English Language Institute and following completion of an oral and written English exam that is administered by the English Language Institute. Students with demonstrated difficulty communicating in English may be required to take an advanced ELI course even if they have earned between 213/550 and 250/600 TOEFL scores.

## MINIMUM GRADE POINT AVERAGE REQUIREMENT

Candidates for the Masters of Arts in East Asian and Pacific Rim Studies are required to maintain a minimum semester grade point average of 3.0 to remain in good academic standing. The Master of Arts in East Asian and Pacific Rim Studies may only be conferred upon a student who has the minimum required- average of a 3.0 at the conclusion of the student's studies. To re-

ceive credit for the completion of one of the tracks, a minimum of a "B" must be received in each course within the concentration. Students failing to maintain minimum academic standards will be placed on academic probation at the end of the first semester in which they do not maintain a semester or overall GPA of at least 3.0 or earn a C- or lower grade in any class. If the student fails to raise his overall GPA above a 3.0 by the end of the semester following being placed on academic probation, fails again to earn at least a 3.0 semester GPA or again earns a C- or lower grade in any class, she or he will be separated from the EAPRS program.

A student separated from the program may apply for readmission to the program following a minimum of one semester of not participating in the program. The student may only do this once.

# Education *Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas*

Dean: Allen P. Cook  
Carlson Hall, Room 109  
Telephone: (203) 576-4192  
Fax: (203) 576-4200  
Email: acook@bridgeport.edu

This degree program provides advanced study in content and content pedagogy for persons interested in careers in education, and/or certification in the State of Connecticut to teach on the elementary, or secondary levels.

## **Intern Program**

Intern Director: Patricia Philips-Gorkowski  
Carlson Hall, Room 108  
Telephone: (203) 576-4219  
E-mail: paphilli@bridgeport.edu

The Graduate School of Education provides an internship option for the following students: (1) those seeking a Master's degree or 6th Year Certificate of Advanced Studies and teacher certification; (2) those already certified and seeking a Master's degree or Sixth Year Certificate of Advanced Studies, or (3) those seeking a Master's degree only for work in nonpublic American schools, schools in another country, or in other educational settings. This internship is designed to integrate field experience with graduate course work. During the internship students earn thirty-three tuition remission credits.

## **Master's Degree Program**

Master of Science in Elementary and Secondary Education

(Connecticut Teacher Certification)

This program provides educators with the opportunities for in-depth study of subject content, techniques and materials appropriate to contemporary classrooms within a structured framework of field concentration and professional development. Emphasis is placed on selected areas of concentration in content and content pedagogy and professional course work for the development of individual clinical competencies.

Individuals seeking Connecticut certification must take courses required for their license in a Master's Planned Program of Study. This program consists of foundation

courses, subject content courses, professional courses, field experiences, and residency teaching.

The following certification tracks are available: Elementary content area courses; Secondary Academic Subjects: Biology, Physics, General Science, Chemistry, Earth Science, English, Mathematics, History and Social Studies, and Music (K-12).

## **Teacher Preparation Programs**

Candidates who seek certification to teach in Connecticut must follow a Planned Program of Study that results in a Master's Degree and a recommendation by the State Certification Officer at the University for an Initial Educator Certificate in the State of Connecticut.

## **Admissions into the Master's Degree (Certification Track Programs)**

Students seeking certification must apply to the program of their choice and must meet the following requirements PRIOR to admission into a Certification Track Program in Elementary, Secondary Academic Subjects, or Music:

1. A Bachelor's Degree in a subject area major (not professional education) from a regionally accredited institution with thirty-nine credits in general education, including course work in English, Mathematics, Natural Science, Social Studies, and World Language or Fine Arts (Grades below a C are NOT accepted for this category).
2. Passing scores on the PRAXIS I exams in Reading, Writing, and Mathematics or an official Essential Skills Test waiver based on required passing scores on the SAT, ACT, GRE, or La Prueba de Aptitud Academica.
3. Undergraduate GPA of at least a B.
4. A well-written essay, at least 350 words, describing the candidate's reasons for enrolling in the program and experience relevant to teaching and demonstrating the appropriate dispositions for becoming a teacher.

5. Two letters of recommendation from persons able to testify to the candidate's suitability as a prospective teacher and potential for graduate-level work.

Candidates seeking admission to the certification-track programs are expected to possess basic technology proficiencies, such as word processing, sending and receiving e-mail messages, using the Internet, and the University's web based platforms.

All candidates for Connecticut State Certification must meet the following additional requirements prior to recommendation for certification:

1. Completion of all required Planned Program course work
2. Completion of all General Education (undergraduate requirements)
3. PRAXIS I (or waiver) and PRAXIS II examinations, as well as any additional -state mandated assessments for specific certification areas
4. Demonstration of all state-required program competencies
5. Demonstration of the knowledge, skills, and dispositions for teaching in the program area, including successful completion of all performance assessments specific to the certification program.

## **Program Goals**

The Teacher Preparation Program Goals coincide with the six domain goals of the *Connecticut Common Core of Teaching* and the national *States' Common Core of Teaching*. The Teacher Preparation program at the University of Bridgeport seeks to develop teachers who can accomplish all of the following:

1. Understand and apply essential skills, central concepts, and tools of inquiry in their subject matter or field.
2. Promote student engagement, independence, and interdependence in learning by facilitating a positive learning community.
3. Plan and Implement instruction in order to engage students in rigorous and relevant learning and to promote their curiosity.

# Education *Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas*

- Use multiple measures to analyze student performance and to inform subsequent planning and instruction.
- Maximize support for student learning by developing and demonstrating professionalism, collaboration with others, and leadership.

## Elementary Education, K-6, Certification Track Program

*Co-Chair:* Steven Rosenberg, Lori Noto  
 Email: srosenbe@bridgeport.edu,  
 lorinoto@bridgeport.edu

### Planned Program of Study

#### PRE-PROFESSIONAL REQUIREMENTS COURSEWORK

<b>FOUNDATIONS OF EDUCATION – 3 credits (required)</b>		
EDUC 502	Philosophical Foundations of Modern Education	3
or EDUC 503	Differentiated Instruction: Building on Student Diversity	3
<b>HUMAN GROWTH AND DEVELOPMENT – 3 credits (required)</b>		
EDUC 509	Psychological Foundations in Education	3
<b>SPECIAL EDUCATION – 3 credits (required)</b>		
EDUC 564	Education of the Exceptional Student	3

#### PROFESSIONAL EDUCATIONAL REQUIREMENTS

##### CURRICULUM AND METHODS OF TEACHING

##### METHODS AND MATERIALS – 6 credits (required) (TWO OF THE FOLLOWING)

EDUC 441C	Methods and Materials in Teaching Mathematics	2
and EDUC 442C	Methods and Materials in Teaching Social Studies	2
and EDUC 443C	Methods and Materials in Teaching Science	2

##### LITERACY – 9 credits (required)

EDUC 440C	Methods and Materials in Teaching Language Arts	3
EDUC 573	Early Literacy Instruction	2
and EDUC 574	Developmental Reading in the Elementary School	3

##### STATUTORY REQUIREMENTS – 1 credit (required)

EDUC 511	Statutory Requirements in Education	1
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##### FIELD EXPERIENCE/RESIDENCE TEACHING – 6 credits plus Supervised Residency Teaching

EDUC 450	Field Experience	6*
or EDUC 515C	Internship — First Semester	3

and EDUC 516C	Internship — Second Semester	3
and EDUC 548C	Directed/Supervised Residence Teaching	6

PRAXIS II Examinations (required)  
 Connecticut Foundations of Reading Test (required)

#### ADDITIONAL GRADUATE COURSES AND ELECTIVES

##### Additional Graduate Coursework (Required if noted)

##### MATHEMATICS (Adviser approval is needed for this course.)

EDUC 399	College Math for Teachers	2
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##### LITERACY AND ENGLISH LANGUAGE LEARNING

EDUC 536C	Children's Literature	3
EDUC 570	Instruction for the English Language Learner	1

##### UNITED STATES HISTORY

HIST 300	U.S. History for Teachers	3
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#### FINAL DEGREE REQUIREMENT (Choose one; certification-track students must take PRAXIS II and Connecticut Foundations of Reading Test.)

##### EXAMINATIONS (required for certification)

PRAXIS II		
Connecticut Foundations of Reading Test		
EDUC 566	Contemporary Educational Problems II	3
EDUC 595	Thesis Research	3

##### Total Number of Credits

Master of Science degree is a minimum of 33 credits. (not including 6 credits for student teaching)

#### OTHER REQUIREMENTS FOR STATE OF CONNECTICUT CERTIFICATION

Additional Coursework for Certification (required if noted)

\*EDUC 450 may be taken in 2 semesters (3 credits each) or one semester at 6 credits.

## Masters of Science in Secondary Education, Certification Track Programs

### Planned Program of Study

#### PRE-PROFESSIONAL REQUIREMENTS COURSEWORK

##### FOUNDATIONS OF EDUCATION – 3 credits (required)

EDUC 502	Philosophical Foundations of Modern Education	3
or EDUC 503	Differentiated Instruction: Building on Student Diversity	3

##### HUMAN GROWTH AND DEVELOPMENT – 3 credits (required)

EDUC 509	Psychological Foundations in Education	3
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##### SPECIAL EDUCATION – 3 credits (required)

EDUC 564	Education of the Exceptional Student	3
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#### PROFESSIONAL EDUCATIONAL REQUIREMENTS

##### CURRICULUM AND METHODS OF TEACHING

##### Methods and Materials—Secondary Level – 3 credits (required)

(Students must take the Methods and Materials course specific to the certification area).

EDUC 440J	Methods and Materials in Teaching Language Arts	3
or EDUC 441J	Methods and Materials in Teaching Mathematics	3
or EDUC 442J	Methods and Materials in Teaching Social Studies	3
or EDUC 443J	Methods and Materials in Teaching Science	3

##### CONTENT LITERACY & LITERATURE – 3 credits (required)

EDUC 575J	Reading and Writing in the Content Areas	3
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##### (Secondary English Education Program Students) – 3 credits (required)

EDUC 536J	Adolescent Literature	3
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##### STATUTORY REQUIREMENTS – 1 credit (required)

EDUC 511	Statutory Requirements in Education	1
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##### Supervised Residency Teaching

EDUC 450	Field Experience	6*
or EDUC 515J	Internship	3
and EDUC 516J	Internship	3
and EDUC 548J	Directed/Supervised Residence Teaching	6
PRAXIS II		

#### ADDITIONAL PROGRAM REQUIREMENTS

##### Additional Coursework Required if Noted

EDUC 500	Research and Report Writing	3
EDUC 570	Instruction for the English Language Learner	1
HIST 300	U.S. History for Teachers	3

#### FINAL DEGREE REQUIREMENT

##### EXAMINATIONS (required for certification)

PRAXIS II		
EDUC 566	Contemporary Educational Problems II	3
or		
EDUC 595	Thesis Research	3

##### Total Number of Credits

Master of Science degree is a minimum of 33 credits. (not including 6 credits of student teaching)

# Education *Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas*

## OTHER REQUIREMENTS FOR STATE OF CONNECTICUT CERTIFICATION

Additional Coursework for Certification or Endorsement (required if noted)

\*EDUC 450 may be taken in 2 semesters (3 credits each) or one semester at 6 credits.

## Specific Subject Area Requirements for Secondary Certification

Each student must have the appropriate undergraduate coursework for the certification area. Students are advised to check with their academic advisor for all undergraduate and graduate certification requirements.

### BIOLOGY, CHEMISTRY, EARTH SCIENCE, GENERAL SCIENCE, OR PHYSICS

Chair: Nelson Ngoh  
Email: ngoh@bridgeport.edu

#### REQUIREMENTS

Undergraduate major in certification area or 30 credits plus nine credits in related subject(s) in certification area

EDUC 443J Methods/Materials, Teaching Science 3  
Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

### ENGLISH

Chair: Patricia Mulcahy-Ernt  
Email: mulcahyp@bridgeport.edu

#### REQUIREMENTS

English major or 30 credits plus nine credits in related subject(s)

EDUC 440J Methods/Materials, Teaching Language Arts 3  
EDUC 536J Adolescent Literature 3  
EDMM 625 Teaching Writing in Classrooms 1

Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

### MATHEMATICS

Chair: Allen P. Cook  
Email: acook@bridgeport.edu

#### REQUIREMENTS

Mathematics major or 30 credits plus nine credits in related subject(s)

EDUC 441J Methods/Materials, Teaching Mathematics 3

Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

#### MATH CONTENT – 12 credits (required)

MATH 401 Analysis I (EDMM 600B) 3  
MATH 402 Analysis II (EDMM 600B) 3  
MATH 407 Analysis III (EDMM 600B) 3  
MATH 414 Numerical Analysis (EDMM 600B) 3

### HISTORY AND SOCIAL STUDIES

#### REQUIREMENTS

History major plus 18 credits in other social sciences; or major in Anthropology, Sociology, Political Science, Geology, Economics, plus 18 credits in history

EDUC 442J Methods/Materials, Teaching Social Studies 3

Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

## Music Education, K-12, Certification Track

Chair: Jeffrey Johnson  
Email: jjohnson@bridgeport.edu

## Planned Program of Study

### FOUNDATIONS OF EDUCATION REQUIREMENTS COURSEWORK

#### FOUNDATIONS OF EDUCATION – 3 credits (required)

EDUC 502 Philosophical Foundations of Modern Education 3  
or EDUC 503 Differentiated Instruction: Building on Student Diversity 3

#### HUMAN GROWTH AND DEVELOPMENT – 3 credits (required)

EDUC 509 Psychological Foundations in Education 3  
or EDUC 560M Human Growth and Development\* 3  
\*These course requirements may be met by taking an appropriate undergraduate course with a grade of at least a "B," taken within the past five years.

#### SPECIAL EDUCATION – 3 credits (required)

EDUC 564 Education of the Exceptional Student 3

## PROFESSIONAL EDUCATION REQUIREMENTS

### CURRICULUM AND METHODS OF TEACHING

#### METHODS AND MATERIALS – 6 credits (required)

MSED 343 Music in Elementary Schools 3  
MSED 380 Music in Secondary Schools 3

#### CONTENT LITERACY – 3 credits (required)

EDUC 575M Reading and Writing in the Content Areas 3

#### FIELD EXPERIENCE/STUDENT TEACHING – 6 credits plus Student Teaching

EDUC 450 Field Experience 6\*  
or EDUC 515M Internship 3  
and EDUC 516M Internship 3  
and MSE 590 Directed/Supervised Residency Teaching, Music 6

## ADDITIONAL PROGRAM REQUIREMENTS

#### STATUTORY REQUIREMENTS – 1 credit (required)

EDUC 511 Statutory Requirements 1

#### ADDITIONAL COURSEWORK (Required if Noted)

EDUC 500 Research and Report Writing 3  
EDUC 570 Instruction for the English Language Learner 3  
Other Electives 1-9

## FINAL DEGREE REQUIREMENT

#### EXAMINATIONS (required for certification)

PRAXIS II  
EDUC 566 Contemporary Educational Problems II 3  
EDUC 595 Thesis Research 3

#### Total Number of Credits

Master of Science degree is a minimum of 33 credits (not including 6 credits of student teaching)

## OTHER REQUIREMENTS FOR STATE OF CONNECTICUT CERTIFICATION

Survey Course of United States History – 3 credits (required)

Additional Coursework for Certification or Endorsement (required if noted)

\*EDUC 450 may be taken in 2 semesters (3 credits each) or one semester at 6 credits.

# Education *Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas*

## **Master of Science in Elementary or Secondary Education, Certification Track Program in Remedial Reading and Remedial Language Arts**

*Chair:* Patricia Mulcahy-Ernt  
Email: mulcahyp@bridgeport.edu

This 33 credit Master of Science degree course of study program at either the Elementary or Secondary level provides extensive course work and experiences in working with students in the field of literacy and language arts, leading to the initial educator certification in Remedial Reading and Remedial Language Arts. An individual with an appropriate regionally accredited Bachelor's degree may apply for this program. Although the program focuses on literacy for grades 1-12, the candidates elect either an Elementary degree focus or a Secondary degree focus through their field experiences and research. This concentration focuses on working with students in a variety of instructional settings for the purpose of teaching literacy processes, for evaluating students in reading and language arts, and for developing and evaluating literacy programs. Students learn to create appropriate literacy instruction for learners experiencing difficulty in reading and language arts. Upon completion of the coursework, field experiences, and appropriate performance assessments, students may apply for the Connecticut initial educator certificate in Remedial Reading/Remedial Language Arts, 1-12.

### **Program Goals**

The program goals in literacy are adapted from the international Reading Association Standards for reading Professionals - Revised 2010. The goals in Literacy for the Remedial Reading and Remedial Language Arts Program are as follows:

1. Reading professionals understand the theoretical and evidence-based foundations of reading and writing processes and instruction.
2. Reading professionals use instructional approaches, materials, and an integrated, comprehensive, balanced curriculum to

support learning in reading and writing.

3. Reading professionals use a variety of assessment tools and practices to plan and evaluate effective reading and writing instruction.
4. Reading professionals create and engage their students in literacy practices that develop awareness, understanding, respect, and a valuing of differences in our society.
5. Reading professionals create a literate environment that fosters reading and writing by integrating foundational knowledge, instructional practices, approaches and methods, curriculum materials, and the appropriate use of assessments.
6. Reading professionals recognize the importance of, demonstrate, and facilitate professional learning and leadership as a career-long effort and responsibility.

### **Admissions Criteria**

1. A valid Connecticut teaching certificate (or proof of eligibility);
2. An appropriate regionally accredited Bachelor's degree;
3. At least two letters of recommendation from persons able to testify to your suitability as a prospective teacher and your potential for graduate-level work;
4. An essay demonstrating a command of the English language and setting out the reasons for wanting to enroll in the program and emphasizing experience relevant to teaching;
5. A successful team interview with faculty;
6. Completion of at least 30 school months of successful classroom teaching experience.
7. Connecticut's essential skills testing requirements: passing scores in the PRAXIS I exams in Reading, Writing, and Mathematics or an official essential skills test waiver currently meeting this requirement.

### **Planned Program of Study**

#### **PREREQUISITE REQUIREMENTS**

Foundations of Education	3
Educational Psychology	3
Children's or Adolescent Literature	3
Special Education	3

#### **PROFESSIONAL EDUCATION REQUIREMENTS**

##### **READING AND LANGUAGE ARTS – 8 credits (required)**

EDUC 440C	Methods and Materials in Teaching Language Arts	3
or EDUC 440M/J	Methods and Materials in Teaching Language Arts	3
and EDUC 574	Developmental Reading in the Elementary School	3
and EDUC 575	Reading and Writing in the Content Area	3

##### **DIAGNOSIS AND REMEDIATION OF READING AND LANGUAGE ARTS DIFFICULTIES – 3 credits (required)**

EDUC 571	Diagnosis and Intervention of Reading and Language Arts Difficulties	3
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##### **TESTS AND MEASUREMENTS – 3 credits (required)**

EDUC 558	Evaluation of Instructional Outcomes	3
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##### **CLINICAL PRACTICES IN READING AND LANGUAGE ARTS – 7 credits (required)**

EDUC 596	Field Experience in Reading and Language Arts	1
EDUC 597	Practicum in Reading and Language Arts	6

#### **ADDITIONAL PROGRAM REQUIREMENTS**

##### **SECOND LANGUAGE LEARNING AND ACQUISITION – 1 credits (required)**

EDUC 570	Instruction for the English Language Learner	1
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##### **ADDITIONAL GRADUATE COURSEWORK (required if noted)**

EDUC 500	Research and Report Writing	3
EDUC 515	Internship	3
EDUC 516	Internship	3
EDUC 570	Instruction for the English Language Learner	3
EDUC 573	Early Literacy Instruction	2

#### **FINAL DEGREE REQUIREMENT**

**(Choose one of the following:)**

EDUC 566	Contemporary Educational Problems II	3
EDUC 568	Studies in Literacy Research	1
or EDUC 595	Thesis Research	2-6



# Education *Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas*

## **ADDITIONAL COURSEWORK FOR CERTIFICATION** *(required if Noted)*

### Total Number of Credits

M.S. Total Minimum: 33 credits

Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

## **Professional Educator Development**

### **Master of Science in Elementary or Secondary Education/Certificate of Advance Studies (CAS) in Elementary or Secondary Education**

*Chair:* Norma Atkinson  
Carlson Hall, Room 108  
Telephone: (203) 576-4028  
Fax: (203-576-4200  
Email: natkinso@bridgeport.edu

This degree program provides advanced study for certified teachers and for persons interested in careers related to school-age students.

## **Professional Educator Development**

This program is designed for students who are certified teachers or who wish to pursue a Master's degree in Elementary or Secondary Education (33 credits); or 6th year (30 credits) Certificate of Advanced Studies in Elementary or Secondary Education.

### **PROGRAM REQUIREMENTS**

The Professional Educator Development Program combines a basic core with selected courses.

### **CORE COURSES**

In the Research and Report Writing course (3 credits), students analyze their own school experiences and determine competencies they wish to achieve. In the Differentiated Instruction course (3 credits), methods for addressing the needs of students' diverse strengths, background, experiences, gender, linguistic, and learning styles will be presented. In the

Teacher Leadership course (3 credits), methods to maximize students' learning potential, and provide students with quality learning experiences, alignment of standards, lessons and assessments. In the final core requirement, Contemporary Problems in Education (3 credits) students demonstrate those competencies in a clinical and a research setting.

### **ELECTIVE COURSE TOPICS**

Courses are offered in the following topics for a total of 30 or 33 credits, with several courses available under each topic. For courses offered each semester, consult the course schedule. On ground, online and hybrid formats available. Depending on availability and course scheduling, candidates may choose from among the following (courses vary between one and three credits):

- EDUC: Course Description
- 450 Field Experience
- 515 Clinical Experience – Internship Program
- EDMM: Course Description
- 606 No room for Bullying
- 609 Small Group Instruction
- 610 Technology Integration
- 617 Development and Design of Blended Learning Instructional Modules
- 618 Technology Literacy
- 619 Web Quest in Interactive Classroom
- 620 Applications of English Grammar
- 623 Interactive Reading/Balanced Literacy
- 624 Literacy Lessons - CMT
- 626 Principles of Early Childhood Education
- 627 Developmentally Appropriate Classrooms
- 628 Family and Community Partnerships
- 632 Dynamics of Classroom Environment
- 633 Critically Reflecting on Practice
- 634 Conflict Resolution
- 641 Identifying & Teaching Academically Gifted
- 642 Differentiated Instruction
- 643 The Art of Teaching Boys & Girls Differently
- 644 Character Education
- 645 Student Centered Instruction
- 646 Reaching Difficult Students
- 654 Mastering the Interview Process
- 655 Positive Student/Teacher Relationships
- 669 Mysteries of the U.S - Historical
- 670 Instructing with Modern Media
- 671 Using Historical Fiction
- 672 Urban Education
- 679 Using STEM in the Classroom
- 687 Inquiry Learning Across Disciplines
- 688 Curriculum Writing and Revision

- 692 Teacher Leadership
- 693 School Law
- 694 A Practical Guide to CCT
- 699 Testing & Assessment Strategies in Education

# Education Sixth Year Certificate of Advanced Study (CAS) in Elementary or Secondary Education Remedial Reading and Language Arts

*Chair:* Patricia Mulcahy-Ernt  
 Carlson Hall, Room 118  
 Telephone: (203) 576-4201  
 Fax: (203) 576-4200  
 Email: mulcahyp@bridgeport.edu

This 30 credit Sixth Year Certificate of Advanced Study (CAS) degree program at either the Elementary or Secondary level provides extensive course work and experiences in working with students in the field of literacy and language arts. An individual with an appropriate regionally accredited Master's degree may use the 6th Year CAS degree program to achieve teacher certification.

Although the program focuses on literacy for grades 1-12, the candidates elect either an Elementary degree focus or a Secondary degree focus through their field experiences and research. This concentration focuses on working with students in a variety of instructional settings for the purpose of teaching literacy processes, for evaluating students in reading and language arts, and for developing and evaluating literacy programs. Students learn to create appropriate literacy instruction for learners experiencing difficulty in reading and language arts. Upon completion of the coursework, field experiences, and appropriate performance assessments, students may apply for the Connecticut initial educator certificate in Remedial Reading/Remedial Language Arts, 1-12.

## Program Goals

The program goals in literacy are adapted from the international Reading Association Standards for reading Professionals - Revised 2010. The goals in Literacy for the Remedial Reading and Remedial Language Arts Program are as follows:

1. Reading professionals understand the theoretical and evidence-based foundations of reading and writing processes and instruction.
2. Reading professionals use instructional approaches, materials, and an integrated, comprehensive, balanced curriculum to support learning in reading and writing.
3. Reading professionals use a variety of assessment tools and practices to plan and evaluate effective reading and writing instruction.

4. Reading professionals create and engage their students in literacy practices that develop awareness, understanding, respect, and a valuing of differences in our society.
5. Reading professionals create a literate environment that fosters reading and writing by integrating foundational knowledge, instructional practices, approaches and methods, curriculum materials, and the appropriate use of assessments.
6. Reading professionals recognize the importance of, demonstrate, and facilitate professional learning and leadership as a career-long effort and responsibility.

## Admissions Criteria

1. A valid Connecticut teaching certificate (or proof of eligibility);
2. An appropriate regionally accredited Master's degree;
3. At least two letters of recommendation from persons able to testify to your suitability as a prospective teacher and your potential for graduate-level work;
4. An essay demonstrating a command of the English language and setting out the reasons for wanting to enroll in the program and emphasizing experience relevant to teaching;
5. A successful team interview with faculty;
6. Completion of at least 30 school months of successful classroom teaching experience.
7. Connecticut's essential skills testing requirements: passing scores in the PRAXIS I exams in Reading, Writing, and Mathematics or an official essential skills test waiver currently meeting this requirement.

In this program students gain extensive preparation in learning to teach students in reading and language arts; to work with learners experiencing difficulty in reading, writing, and literacy-related processes; to assess literacy development; and to develop and evaluate programs that improve literacy processes.

## PREREQUISITE REQUIREMENTS\* (9 credits)

### EDUCATIONAL PSYCHOLOGY – 3 credits (required)

EDUC 509	Psychological Foundations in Education	3
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### CHILDREN'S OR ADOLESCENT LITERATURE – 3 credits (required)

EDUC 536C	Children's Literature	3
or EDUC 536J	Adolescent Literature	3

### SPECIAL EDUCATION – 3 credits (required)

EDUC 564	Education of the Exceptional Student	3
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## PROFESSIONAL EDUCATION REQUIREMENTS\*\*

### READING AND LANGUAGE ARTS - 9 credits (required)

EDUC 440C	Methods and Materials in Teaching Language Arts	3
or EDUC 440M/J	Methods and Materials in Teaching Language Arts	3
and EDUC 574	Developmental Reading in the Elementary School	3
and EDUC 575M/J	Reading and Writing in the Content Areas	3

### DIAGNOSIS AND REMEDIATION OF READING AND LANGUAGE ARTS DIFFICULTIES – 3 credits (required)

EDUC 571	Diagnosis and Intervention of Reading and Language Arts Difficulties	3
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### TESTS AND MEASUREMENTS – 3 credits (required)

EDUC 558	Evaluation of Instructional Outcomes	3
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### CLINICAL FIELD EXPERIENCES – 7 credits (required)

EDUC 596	Field Experience in Reading and Language Arts	1
EDUC 597	Practicum in Reading and Language Arts	6

## ADDITIONAL PROGRAM REQUIREMENTS

### (4-12 credits)

### SECOND LANGUAGE LEARNING AND ACQUISITION (required as noted)

EDUC 570	Instruction for the English Language Learner	1
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### STATUTORY REQUIREMENTS (required as noted)

EDUC 511	Statutory Requirements in Education	1
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### ADDITIONAL GRADUATE COURSEWORK (required as noted)

EDUC 573	Early Literacy	2
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# Education *Sixth Year Certificate of Advanced Study (CAS) in Elementary or Secondary Education* Remedial Reading and Language Arts

## FINAL DEGREE REQUIREMENT \_\_\_\_\_

(Choose one of the following:)

### INDEPENDENT STUDY

EDUC 668	Literacy Research Project	1
EDUC 669	Sixth Year Project	1-3

### THESIS RESEARCH

EDUC 695	Advanced Thesis Research — Sixth Year	2-6
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### Credits for Certification 21

Students need to complete all requirements on their Planned Programs of study. Students seeking to complete the Sixth Year Degree must complete an additional 9 credits, inclusive of the Final Degree Requirement.

### Total Number of Credits:

Sixth Year degree Total Minimum: 30 Credits

\*With prior written adviser approval these courses may be met by taking undergraduate courses with a grade of a "B" or higher.

\*\*These courses are required for the Sixth Year Certificate Program in Remedial Reading and Remedial Language Arts.

# Education Sixth Year Certificate of Advance Studies (CAS) with Reading and Language Arts Consultant Certification

*Chair:* Patricia Mulcahy-Ernt  
 Carlson Hall, Room 118  
 Telephone: (203) 576-4201  
 Fax: (203) 576-4200  
 Email: mulcahyp@bridgeport.edu

The Reading and Language Arts Consultant is a Teacher Certification Program designed to prepare educators for leadership positions in elementary, middle, and secondary schools. The program prepares the student for the roles of a curriculum and instructional leader, including the following: organizing, supervising, and enhancing literacy programs; coordinating the instruction and assessment of students in reading and language arts; guiding, improving, and enriching reading and language arts instruction in all content areas; and collaborating with teachers, administrators, parents, and other literacy leaders.

Applicants must have completed an appropriate Master's degree, must have a valid teaching certificate (or be eligible for Connecticut certification) in elementary, middle, or secondary education; must have completed a minimum of thirty months of successful classroom teaching experience; and must have completed all state required tests, including the Connecticut Foundations of Reading Test. Upon the completion of the Planned Program with appropriate coursework, field experiences, performance assessments, and the demonstration of required certification competencies, a student may apply for the Reading and Language Arts Consultant certification.

## Program Goals

The program goals in literacy are adapted from the international Reading Association Standards for reading Professionals - Revised 2010. The goals in Literacy for the Reading and Language Arts Consultant Program are as follows:

1. Reading professionals understand the theoretical and evidence-based foundations of reading and writing processes and instruction.
2. Reading professionals use instructional approaches, materials, and an integrated,

comprehensive, balanced curriculum to support learning in reading and writing.

3. Reading professionals use a variety of assessment tools and practices to plan and evaluate effective reading and writing instruction.
4. Reading professionals create and engage their students in literacy practices that develop awareness, understanding, respect, and a valuing of differences in our society.
5. Reading professionals create a literate environment that fosters reading and writing by integrating foundational knowledge, instructional practices, approaches and methods, curriculum materials, and the appropriate use of assessments.
6. Reading professionals recognize the importance of, demonstrate, and facilitate professional learning and leadership as a career-long effort and responsibility.

## Admissions Criteria

1. A valid Connecticut teaching certificate (or proof of eligibility);
2. An appropriate regionally accredited Master's degree;
3. At least two letters of recommendation from persons able to testify to your suitability as a prospective teacher and your potential for graduate-level work;
4. An essay demonstrating a command of the English language and setting out the reasons for wanting to enroll in the program and emphasizing experience relevant to teaching;
5. A successful team interview with faculty;
6. Completion of at least 30 school months of successful classroom teaching experience.
7. Connecticut's essential skills testing requirements: passing scores in the PRAXIS I exams in Reading, Writing, and Mathematics or an official essential skills test waiver currently meeting this requirement.
8. Passing scores on the Connecticut Foundations of Reading Test.

## PREREQUISITE REQUIREMENTS\*

\*These requirements may be met by taking an undergraduate or graduate course with a grade of at least a "B."

<b>EDUCATIONAL PSYCHOLOGY – 3 credits (required)</b>		
EDUC 509	Psychological Foundations in Education	3
<b>CHILDREN'S OR ADOLESCENT LITERATURE – 3 credits (required)</b>		
EDUC 536C	Children's Literacy	3
or EDUC 536J	Adolescent Literacy	3
<b>SPECIAL EDUCATION – 3 credits (required)</b>		
EDUC 564	Education of the Exceptional Student	3
<b>TESTS AND MEASUREMENTS – 3 credits (required)</b>		
EDUC 558	Evaluation of Instructional Outcomes	3
<b>CURRICULUM: METHODS AND MATERIALS IN TEACHING LANGUAGE ARTS – 3 credits (required)</b>		
EDUC 440C	Methods and Materials in Teaching Language Arts	3
or EDUC 440M/J	Methods and Materials in Teaching Language Arts	3
<b>SECOND LANGUAGE LEARNING AND ACQUISITION – 1 credit (required)</b>		
EDUC 570	Instruction for the English Language Learner	1
<b>Total Credits</b>		<b>16</b>

## INITIAL PROGRAM REQUIREMENTS

(The initial program requirements may be met through completion of the following courses at the Master's or Sixth Year level:)

<b>DEVELOPMENTAL READING – 6 credits (required)</b>		
EDUC 574	Developmental Reading in the Elementary School	3
and EDUC 575M/J	Reading and Writing in the Content Areas	3
<b>DIAGNOSIS AND REMEDIATION OF READING AND LANGUAGE ARTS DIFFICULTIES – 3 credits (required)</b>		
EDUC 571	Diagnosis and Intervention of Reading and Language Arts Difficulties	3
<b>CLINICAL FIELD EXPERIENCE – 7 credits (required)</b>		
EDUC 596	Field Experience in Reading and Language Arts	1
EDUC 597	Practicum in Reading and Language Arts	6
<b>Total Credits</b>		<b>16</b>

# Education *Sixth Year Certificate of Advance Studies (CAS) with Reading and Language Arts Consultant Certification*

## ADVANCED PROGRAM REQUIREMENTS \_\_\_\_\_

### ADVANCED READING AND LANGUAGE ARTS DIAGNOSIS – 2 credits (required)

EDUC 572      Advanced Diagnosis of Reading and Language Arts Difficulties      2

### ORGANIZATION, ADMINISTRATION, AND SUPERVISION OF READING – 4 credits (required)

EDLD 611      Administration: Organizing and Staffing Educational Institutions      3

or EDLD 613      Leadership      3

EDLD 611A      Organization, Administration, and Supervision of Reading and Language Arts Programs      1

### READING AND LANGUAGE ARTS CONSULTANT PRACTICUM AND APPLIED RESEARCH – 6 credits (required)

EDLD 683      Internship for the Reading & Language Arts Consultant      6

Total Credits \_\_\_\_\_ 12

## ADDITIONAL PROGRAM REQUIREMENTS \_\_\_\_\_

### FINAL DEGREE REQUIREMENT (Choose one of the following:)

EDUC 668      Literacy Research Project      1

EDUC 669      Sixth Year Project      3

or

EDUC 695      Advanced Thesis Research– Sixth Year      3

### ADDITIONAL COURSEWORK FOR CERTIFICATION (required if Noted)

#### Total Number of Credits

Sixth Year Total Minimum: 30 credits

# Educational Administration and Supervision *Sixth Year Certificate of Advanced Study (CAS), Intermediate Administrator (092 Certification) Certification Track*

*Chair and Director:* Ethan Margolis  
Carlson Hall, Room 101  
Telephone: (203) 576-4218  
Fax: (203) 576-4200  
Email: emargoli@bridgeport.edu

## Program Goals

The Educational Leadership with Administration and Supervision Program Goals are adapted from Connecticut State Department of Education's common Core of Leading (2013). The Educational Leadership with Administration and Supervision program at the University of Bridgeport seeks to develop leaders who can accomplish all of the following:

1. Develop a shared vision for student learning that creates meaning for the people in the organization and infuses purpose into the strategies and standards for actions linked to that vision.
2. Promote an instructional program, built on high expectations for all learners and conducive to student learning and professional growth, thereby developing a school culture of success for all learners.
3. Establish positive learning environments by developing trust and credibility through meaningful relationships.
4. Establish a culture that is open and inclusive, through modeling and expecting ethical and moral behaviors from all.

A student who holds a Master's degree from an accredited college or university may apply to in the Sixth Year program. The Professional Diploma program consists of thirty semester hours.

The Sixth Year Program, leading to the professional Diploma in Educational Leadership with Administration and Supervision, is designed to meet requirements leading to administrator and supervisor certification (092). This Connecticut State Certification enables a candidate to apply for leadership positions other than Superintendent of Schools (093 certification). With the exception of Reading and Language arts, this certification would also include subject area consultant and curriculum coordinator.

## Intermediate Administrator (092 Certification) Certification Track

### Summary of Requirements

(30 SEMESTER HOURS)

**CERTIFICATION REQUIRES COURSES IN EACH OF THE FIVE AREAS, AND A TOTAL OF 24 CREDITS BEYOND THE MASTER'S \_\_\_\_\_**

#### REQUIRED CORE \_\_\_\_\_

##### I. PSYCHOLOGICAL/PEDAGOGICAL

\*EDLD 621 Evaluation of School Effectiveness

##### II. CURRICULUM/PROGRAM MONITORING

\*EDLD 651 Curriculum Development

##### III. SCHOOL ADMINISTRATION

EDLD 618 School Finance (required)

EDLD 619 School Law (required)

##### IV. PERSONNEL EVALUATION/SUPERVISION

EDLD 652 Supervision: Evaluation/Development

##### V. CONTEMPORARY EDUCATIONAL PROBLEMS/POLICY MAKING

EDLD 601 Introduction to Education Leadership

#### Notes:

1. Administrative Internship ED. 681A (3 credits) required
2. CAT Examination – required for 092 certification
3. EDUC 664 Supervision of Programs & Services for students with Exceptionalities (This requirement will be substituted for an elective if the candidate holds appropriate certification Social Work, Speech, Psychology, Special Ed.).

**Must be completed for certification.**

4. Certification (092) = 24 credits

5. 6th Year professional Diploma = 30 credits

#### SUGGESTED ELECTIVES (3 Credits each) \_\_\_\_\_

EDLD 613 Contemporary Issues in Education Leadership

EDLD 614 Leadership & Management of School Facilities

EDLD 680A Urban Leadership

EDLD 615 Research & Data Informed Supervision

Electives offered by other departments or colleges, may be substituted with approval by the student's advisor.

**Total Semester Hours \_\_\_\_\_ 30**

# Educational Leadership *Doctor of Education Degree*

*Program Director:* Thomas Christ  
Carlson Hall, Room 116  
Telephone: (203) 576-4215  
Fax: (203) 576-4200  
Email: tchrist@bridgeport.edu

The Doctoral program in Educational Leadership at the University of Bridgeport is the first of its kind in Connecticut and has been operating since 1979. It is designed to enhance and improve the effectiveness of public and private organization leaders, school administrators, and researchers. Graduates and current students have held and hold significant positions in state-wide school systems, for-profit, non-profit institutions, colleges, and universities. The advanced graduate curriculum integrates the sound principles of administration, management, organizational psychology, information technology, program evaluation, quantitative, qualitative, action, and mixed research methodologies.

The program is specifically tailored to the working professional and is offered on a part-time basis (two evenings per week) at the U.B. Campus. Consequently, all courses and seminar are conveniently scheduled around the job of the working professional. The successful completion of the program leads to the Doctor of Education degree (Ed.D.).

The Doctoral Program takes into consideration the needs of such personnel in terms of both the content of the curriculum, orientation, and program organization. It is offered at the University of Bridgeport campus easily accessible from New York, New Jersey, and Massachusetts by car, train, or ferry.

The program requires a minimum of four years for completion, including three years of formal study, and a minimum of one year to complete the dissertation. During the first two years, students typically take one six credit doctoral seminar and one three credit research-evaluation course per semester. Students should take online-hybrid classes during year one and two summers as part of the residency requirement in the program.

## 1. Summary of Requirements

(62 SEMESTER HOURS)

### **Educational Leadership Strand**

- EDLD 801 Program Development (6 Credits)
- EDLD 804 Constitutional Law (6 Credits)
- EDLD 805 Grant Writing, Procurement, and Policy (6 Credits)
- EDLD 807 Organization Management (6 Credits)
- EDLD 808 Human Relations (6 Credits)

### **Research and Evaluation Strand**

- EDLD 811 Intro to Research (3 Credits)
- EDLD 812 Quantitative Research (3 Credits)
- EDLD 814 Qualitative Research (3 Credits)
- EDLD 815 Mixed Methods (3 Credits)
- EDLD 816 Action Research Project (3 Credits Repeatable up to 2X)

### **Dissertation Preparation Strand**

- EDLD 813 Literature Review (3 Credits)
- EDLD 845 Dissertation: Comprehensive Exam (3 Credits)
- EDLD 846 Dissertation: Proposal Defense (3 Credits)
- EDLD 850 Continuous Dissertation (0 Credits)

### **Postsecondary Teaching Experience**

- EDLD 817 Postsecondary Teaching (2 Credits Repeatable up to 4X)

### **For 092 Certification Add**

- EDLD 881a Administrative Internship (3 credits) + CAT Exam
- EDLD 864 Special Education for Administrators (3 Credits)

## 2. Residency

A substantial period of residence must be included in a doctoral program to provide significant faculty-student interaction, opportunities for exposure to and engagement with cognate disciplines and research scholars working in those disciplines, and significant face-to-face peer interaction among graduate students. Residency is established through continuous enrollment, fall, spring, and summer with a minimum of 3 credits per semester. Residency provides the opportunity for a mentor-apprentice relationship between faculty and students and time for in-depth and direct faculty support of students. Thus, the intent of the residency requirement is to ensure that doctoral students contribute to and benefit from the complete spectrum of educational, professional, and enrichment opportunities provided on and off the University of Bridgeport campus.

## 3. Dissertation Preparation

The dissertation proposal draft is a 12-15 page overview of the student's ideas for their dissertation. The proposal draft which is created in the first year of the program as part of EDLD 811-Introduction to Research, EDLD 812-Quantitative Research, and EDLD-813-Literature Review should provide guidance for the selection of dissertation committee members as well as a basis for further expansion of the dissertation methodology and procedures which occurs in EDLD 814-Qualitative Research and EDLD 815-Mixed Methods Research. The purpose for the dissertation proposal draft is to state the problem, purpose, research questions, methodology, and procedures to conduct the research project. The proposal draft will include a graphic depiction of the methodology and methods, and a time line for completion of the dissertation proposal including literature review and Human Subject approval. Discussing the research proposal in draft format with a potential committee chair, other potential committee members, and peers will enable the student to obtain advice early in the dissertation process as to the suitability of the topic and as to whether or not the research questions and methodologies are logical, appropriate, and sound.

## 4. Comprehensive Examination and Dissertation Proposal

All matriculated doctoral students wishing to become doctoral candidates must pass a written comprehensive examination. Passage of the comprehensive exam coincides with the final dissertation proposal. The comprehensive exam will consist of: (a) one research methodological question; (b) one program focus question; and (c) one area of specialization question related to the students' dissertation topic. The questions will be designed by the doctoral faculty and the student to rigorously assess the mastery and synthesis of knowledge garnered during coursework. Further, it is intended to gauge the student's potential for independent dissertation research. Students should take the exam at the conclusion of their third year, after all coursework has been completed. Students will have 30 days to complete the take home comprehensive exam. Each question should be 15

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## Educational Leadership *Doctor of Education Degree*

pages with no less than 15 appropriate citations per question representing coursework in the program, and the students' research in their specialization strand. Following APA 6th edition is mandatory!

The dissertation proposal is a required component of the doctoral program, and must be approved for a student to become a doctoral candidate. The student, the student's Chair, and the School of Education expect to see evidence of careful attention to APA 6th style and format in the proposal document. The UB Doctoral Guidelines are derived from standard practices among universities, libraries, and publishers. The student is expected to read and follow the Guidelines throughout the proposal preparation. The proposal includes the student's statement of a research problem and the chosen method of investigating it. The proposal is the first step toward completion of the dissertation, which is an original contribution to one's field of study. The study may be applied research; it may be experimental, quasi-experimental, or non-experimental in its design; it may include quantitative, qualitative, action, mixed or critical methodology. Writing the dissertation proposal begins immediately upon entering the Ed.D. program guided by a unique sequence of six 3-credit courses (EDLD: 811, 812, 813, 814, 815, 816). It is essential that the student be capable of discussing the theoretical basis of a proposed study and the specific methodologies and is approved by IRB and the dissertation committee before the student begins formal data collection. A proposal draft should contain the following headings:

### **5. Dissertation-Doctoral Candidacy**

Once the student has successfully passed the Comprehensive Examination and completed the Dissertation Proposal, he or she is eligible to apply to be a Doctoral Candidate. The student should submit the form "Admission to Doctoral Candidacy" to the Director. This designation will be conveyed to the student by an official letter from the School of Education and/or the Department of Educational Leadership. Doctoral Candidacy allows the student to register for dissertation advising EDLD 850 which is a 0 credit course but is deemed to be full time.

A student must be a candidate for at least two semesters prior to the granting of the degree. Student may not, unless granted a waiver, defend the dissertation during the semester immediately following the semester during which he or she completed the proposal. The purpose of this requirement is to assure a minimal lapse of time for effective work on the dissertation after acquisition of the basic competence and after delineation and approval of the research problem and methodology. Once students are advanced to candidacy they must be enrolled in EDLD 850 continuously for dissertation advising and supervision (fall, spring and summer semesters) until graduation. If the student is not advanced to candidacy within six years from the time of admission to the doctoral program, the student should be dismissed from the program. Each student has a three-member dissertation committee, the director of the Ed.D. Program, and the Dean of School of Education.

### ***Note: Completion of Doctoral Degree***

The degree must be completed within seven years of the date from which the student started coursework in the doctoral program. In exceptional cases, the department may recommend that the Dean grant an extension of this limit.



# Electrical Engineering *Master of Science Degree*

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*Chair:* Navarun Gupta  
Engineering Technology Building  
Telephone: (203) 576-4117  
Fax: (203) 576-4750  
Email: navarung@bridgeport.edu

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This Program is designed to increase the student's knowledge and competence in basic areas necessary for Modern Electrical Engineering, while affording sufficient freedom to allow an in-depth study of such areas as Communications, Control Systems, Electronics and Digital Processing.

The Department also offers, as an integral part of the Electrical Engineering Masters Degree, the opportunity to specialize in several Concentration Areas.

Electrical Engineering Concentration Areas:

1. Bio-Medical Engineering
2. Computer Communications and Networking
3. Environmental and Energy Management
4. Microelectronics and Computer Architecture
5. Robotics and Automation
6. Security (IT Security, Biometrics, etc.)
7. Signal and Image Processing
8. Very Large Scale Integration (VLSI)
9. Wireless and Mobile Communications

Please refer to the Graduate Studies Division Catalog pages for course details of the concentration areas.

In addition, the department also offers the opportunity to acquire dual graduate degrees along with the M.S. degree in Electrical Engineering. Candidates for these dual Masters degree programs are typically required to complete a total of 48 credit hours to satisfy the requirements of two Masters degrees. This implies 18 credit hours in addition to the 30 hours required for the M.S. degree in Electrical Engineering.

Please refer to the Graduate Studies Division catalogue pages for detailed information on Dual Graduate Degree programs.

Furthermore, customized study plans to allow receiving the Electrical Engineering

M.S. degree while pursuing either the Ph.D. degree in Computer Science and Engineering or the Ed.D. degree in Education are available. Doctoral students in these two programs should consult their respective doctoral advisors to work on their individualized plans. Further details on the dual M.S. in Electrical Engineering degree programs are available in the catalog section on Graduate Studies Division.

## **Admission Requirements**

Students must have a Bachelor of Science in Electrical Engineering or a related field. In both cases, the department may require make-up of background deficiencies.

## **COURSE REQUIREMENTS**

- A. A total of 30 semester hours is required in an approved program of study. Some students in this program enter with an undergraduate record lower than desired. These students are told in their admit letter that they must take 33 or 36 or 39 credits for their MS in E.E program.
- B. The Master's thesis is optional. If undertaken, it counts as 6 semester hours and must be conducted under the supervision of an EE Department faculty member. If the Master's thesis is not taken, then EE-597 must be taken for 3 credits.
- C. 400 or 500 level courses in Electrical Engineering, Computer Engineering and Computer Science are acceptable, with advisor approval, to count for the course requirements of the MS in E.E program.
- D. It is recognized that not all students will have the necessary depth of study in their preparatory program for the MSEE. Consequently, the Department may permit a maximum of two undergraduate electives to be taken for graduate credit.
- E. A total of one course in Mechanical Engineering or Technology Management is allowed to be taken toward the Master of Science in electrical Engineering.

The elective courses may be chosen from the list of Electrical Engineering concentration areas or chosen in consultation with the graduate advisor.

The course requirements of the concentration areas are described in the Graduate Studies Division section of the catalog.

The concentration areas can be applied to satisfy the requirements of dual Masters degree programs of study.

## **Learning Outcomes**

Students in the M.S. Electrical Engineering Program will be able to 1) demonstrate the ability to use techniques, skills and modern engineering tools necessary for engineering practice; 2) demonstrate the ability to plan and conduct laboratory experiments and interpret and report results; 3) demonstrate the ability to identify and apply concepts of engineering economics and project planning; 4) demonstrate knowledge of contemporary global and societal issues and their relationship; and 5) exercise strong oral and written communication skills including those needed for technical writing.

# Global Development and Peace *Master of Arts Degree*

Chair: Dr. Dave Benjamin  
Carlson Hall 235  
Telephone: (203) 576-4966  
Fax: (203) 576-4967  
Email: dbenjamin@bridgeport.edu

The Master of Arts in Global Development and Peace is designed for individuals who intend to pursue careers in international public service through intergovernmental organizations, government agencies, and non-governmental organizations. Graduates of the Master of Arts in Global Development and Peace will also be prepared for the careers in the private sector, especially to work in banks, insurance companies, corporations, and management firms that have branch offices, holdings, partnerships, and/or clients in developing countries.

All courses are 3 credits.

This graduate degree is designed to allow future civil servants and business professionals interested in global development and human security to develop an understanding of

- Extant models of socioeconomic development
- Prerequisites for good governance in developing countries
- The impact of religion and culture on intra- and interstate relations.

Students in the program will also develop competence in:

- Quantitative and qualitative research and analysis.
- Negotiation and conflict resolution.
- Project management and related problem-solving skills

They are also expected to develop or demonstrate a Foreign Service Level 2 (limited working proficiency) of at least one world language beside English.

## **Masters of Arts Core Requirements**

The program is developed as a 36 credit graduate course of study that requires four semesters of study including a overseas internship.

It requires the student to have completed some foundational coursework in political economy and have a working knowledge of at least one world language. Students may apply without the prerequisites, but they will need to demonstrate competency in these areas prior to completion of their degree. Undergraduate students in the College of Public and International Affairs who complete 12 semester hours of the program in addition to all the requirements for their undergraduate degree may receive a Graduate Certificate in Global Development & Peace provided they receive no grade lower than a B in the 12 graduate credits that they complete. These 12 semester hours must be in excess of the required 120 semester hours for graduation with the Bachelor's degree.

The curriculum of the Master's degree is designed so that students will develop competency in the following areas:

- Qualitative and Quantitative Research Methods and Their Applications to Development.
- International Political Economy and the Major Theories of Development.
- An Appreciation of the Role played by Religion and Culture in Development
- Conflict Analysis and Resolution
- Diplomacy and Negotiation

The Masters offers three potential tracks and students should choose from one of the following:

### **CONFLICT ANALYSIS AND RESOLUTION TRACK**

For those interested in conflict management

### **INTERNATIONAL POLITICAL ECONOMY AND DEVELOPMENT TRACK**

For those interested in development and its challenges

### **GLOBAL MANAGEMENT TRACK**

For those interested in working in the commercial domain, especially in emerging and developing economies.

### **GLOBAL MEDIA AND COMMUNICATION**

For those interested in public diplomacy or in serving as a spokesperson.

### **Course of Study**

Sample Curriculum Sequence:

#### **Semester I**

Core (9 semester hours)

GLDP 511	Issues in Economic Development	3
GLDP 522	International Conflict and Negotiation	3
GLDP 528	Sociopolitical Implications of the World's Religions	
Or GLDP 525	Globalization	

\*Note: All first semester GLDP students take these same core courses.

#### **Semester II**

Core for All Students

GLDP 501	Research Methods	
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#### **Specialization Track A Conflict Analysis and Resolution**

Choose Two:

GLDP 535x	Peace Psychology	
GLDP 581	Advanced Diplomacy	
GLDP 524	Political and Economic Integration	

#### **Specialization Track B International Political Economy & Development**

Choose Two:

GLDP 523	Corruption	
GLDP 540	Culture and Development or	
GLDP 563	International Human Rights	

#### **Specialization Track C Global Media and Communication**

Choose Two:

GMCS 511	Communication Theory	
GMCS 529	Advanced Intercultural Communication	
GMCS 543	Communication and National Development	
GMCS 555	News Media & International journalism	
GMSC 562	Media Communication Law and Legal Issues	

**or**

#### **Specialization Track D Global Management**

Choose Two:

GLDP 523	Corruption	
GSB 537/MGMT 532	Global Program and Project Management	3
GSB 580/MGMT 523	Leadership, Teams & Managing Change	3
GLDP 528	Political and Economic Integration	

#### **Semester III**

For all Tracks

GLDP 591	Internship	
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# Global Development and Peace *Master of Arts Degree*

## Semester IV

### Specialization Track A Conflict Analysis and Resolution

Choose 2 plus one course in another Track B, C, or D

GLDP 560	Sustainable Development	
GMCS 543	Communication and National Development	
GLDP 563	International Human Rights	
GMCS 529	Advanced Intercultural Communication	

### Specialization Track B International Political Economy and Development

Choose 2 plus one course in Track A, C, or D

GLDP 540	Culture and Development	
GLDP 560	Sustainable Development	
MGMT 532	Global Program and Project	
GSB 539	International Issues	3

### Specialization Track C Global Communication

Choose two plus one course in Track A, B or D

GMCS 555	News Media & International Journalism	
GMCS 562	Media Communication Law and Legal Issues	
GLDP 529	Advanced Intercultural Communication	

### Specialization Track D Global Management

Choose two plus one course in Track B, C, or D

FIN 500	International Trade and Finance	3
FIN 630	International Financial Management	3
FIN 743	Technical Analysis & Trading	3
GLDP 561	Sustainable Development	3
MGMT 779	International Issues	3
MGMT 632	Global Program and Project Management	3

## Semester V

GLDP 598	Tutorial	
GLDP 599	Thesis	

**Total Semester hours for Semesters I-V 36**

## ENGLISH LANGUAGE REQUIREMENT

For applicants whose native language is not English, a minimum score of 213 (computer)

or 550 (paper) on the TOEFL (Test of English as a Foreign Language) is required.

Exception to these requirements will be considered on a case-by-case basis in consultation with the Director of the University's English Language Institute and following completion of an oral and written English exam that is administered by the English Language Institute. Students with demonstrated difficulty communicating in English may be required to take an advanced ELI course even if they have earned between 213/550 and 250/600 TOEFL scores.

## MINIMUM GRADE POINT AVERAGE REQUIREMENT

Candidates for the Masters of Arts in Global Development & Peace are required to maintain a minimum semester grade point average of 3.0 to remain in good academic standing. The Master of Arts in Global Development may only be conferred upon a student who has the minimum required average of a 3.0 at the conclusion of the student's studies. To receive credit for the completion of one of the tracks, a minimum of a "B" must be received in each course within the concentration. Students failing to maintain minimum academic standards will be placed on academic probation at the end of the first semester in which they do not maintain a semester or overall GPA of at least 3.0 or earn a C- or lower grade in any class. If the student fails to raise his overall GPA above a 3.0 by the end of the semester following being placed on academic probation, fails again to earn at least a 3.0 semester GPA or again earns a C- or lower grade in any class, she or he will be separated from the GLDP program. A student separated from the program may apply for re-admission to the program following a minimum of one semester of not participating in the program. If, following this, the student does not achieve the needed 3.0, he or she is definitively separated from the program.

- Students will demonstrate an appreciation of the impact that religion and culture can have on socioeconomic development
- Students will demonstrate the basic skills needed for effective communication and negotiation.
- Students will demonstrate skills needed in problem solving and in project management through an overseas internship.
- Students will demonstrate a working knowledge of a second language in addition to English.

*\* Note for all academic programs in the College of Public and International Affairs, a portfolio is collected to track progress in programmatic outcomes.*

## Learning Outcomes

The Master of Arts in Global Development & Peace has the following learning outcomes:

- Students will be able to explain and compare the major extant models for socioeconomic development.
- Students will demonstrate that they have acquired the quantitative and qualitative research skills needed to undertake effective planning, analysis and implementation of projects related to socioeconomic development or conflict resolution.
- Students will demonstrate an understanding of the institutional prerequisites for good governance in developing countries.

# Global Media and Communication Studies *Master of Arts Degree*

Chair: Dr. Yanmin Yu  
Carlson Hall 232  
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Fax: (203) 576-4967  
Email: yanmin@bridgeport.edu

The Master of Arts in Global Media and Communication Studies is designed to prepare students to become communication specialists who can respond to the information revolution and the globalization of media. The program conveys the importance of media experts that possess intercultural sensitivity and an ability to transcend borders and interpret the communications of other cultures. The program's Global Communications Track introduces and supports its students to develop the skills needed for careers in as spokespersons, cross-cultural communications specialists for governmental, nongovernmental public diplomacy and for work with transnational corporations. Its New Media Track prepares students as webmasters and content managers for industry and for the work in the public sector.

The Master of Arts in Global Media and Communication Studies is a two-year program. It requires the completion of 36 semester hours of class work, including an internship, tutorial and thesis (space). Students who enter the program are expected to have completed at least one year of college foreign language study or pass a language proficiency exam. Students who have not studied a foreign language must do such study in order to graduate. Domestic students must do the internship in a country where the foreign language that they have studied is spoken and it may be done over two summers if necessary. Non-US students who speak another global language besides English may do their internship either locally or overseas.

## **Masters of Arts Core Requirements**

The Master of Arts in Global Media and Communication Studies is a 36 semester hour graduate course of study that requires four to five semesters, including an overseas internship.

The curriculum of the Master of Arts in Glob-

al Media and Communication Studies is designed so that students develop and demonstrate competency in the following areas:

- Demonstrate an understanding of the roles and functions of traditional and new media
- Demonstrate an ability to function as an effective communicator, writer, and spokesperson
- Demonstrate an understanding of the different media systems in the world and patterns of communication
- Demonstrate abilities and skills to communicate across cultures and nations
- Demonstrate an ability to use media and communication skills to address conflicts and misunderstandings
- Demonstrate an understanding of the legal and ethical issues in media communication
- Demonstrate abilities and skills in gathering, writing, and reporting news in foreign countries
- Develop abilities to create effective media content
- Demonstrate abilities to assess, use, and interpret information
- Develop basic knowledge of at least one world language other than English.

The Master of Arts in Global Media and Communication Studies offers two potential tracks and students choose one based on interests and skills:

### **GLOBAL COMMUNICATION TRACK**

Students who elect this concentration will normally pursue a career in public diplomacy either (strike either) as a communications specialist either with a government, a government agency, an intergovernmental agency or a non-governmental agency or with a transnational corporation.

### **NEW MEDIA TRACK**

Students choosing this track will normally work as webmasters, web designers or specialists for government-related agencies or in the corporate world.

## **Course of Study**

Sample Curriculum Sequence:

### **SEMESTER I**

GMCS 501	Graduate Seminar in Research Methods	3
GMCS 511	Communication Theories	3
<b>Global Communication Track (Choose One of Following)</b>		<b>3</b>
GMCS 535	International Advertising and Public Relations	
GMCS 543	Communication and National Development	
GMCS 555	News Media and International Journalism	
GMCS 557	Political Communication and Public Diplomacy	
GLDP 522	International Conflict and Negotiation	
MKTG 650	Global Market Management	

\*One additional course outside the Global Communication Track

### **New Media Communication Track (Choose one of the Following)**

GMCS 543	Communication and National Development	
GMCS 555	Media Business and Management	
GMCS 552	Advanced Web Publishing and Design	
GMCS 572	Advanced Multimedia	
	Collaborative Design Studio I	
	Collaborative Design Studio II	
	Design Management I	
	Design Management II	

\*One additional course outside the New Media Communication Track

### **SEMESTER II**

GMCS 529	Advanced Intercultural Communication	3
GMCS 537	Global Communication and Mass Media	3
<b>Global Communication Track (Choose One of Following)</b>		<b>3</b>
GMCS 529	Advanced Intercultural Communication	
GMCS 537	Global Communication and Mass Media	

### **Global Communication Track (Choose One of Following)**

GMCS 535	International Advertising and Public Relations	
GMCS 543	Communication and National Development	
GMCS 555	News Media and International Journalism	
GMCS 557	Political Communication and Public Diplomacy	
GLDP 522	International Conflict and Negotiation	
MKTG 550	Global Market Management	

\*One additional course outside the Global Communication Track

### **New Media Communication Track (Choose one of the Following)**

GMCS 543	Communication and National Development	
GMCS 555	Media Business and Management	
GMCS 552	Advanced Web Publishing and Design	
GMCS 572	Advanced Multimedia	
	Collaborative Design Studio I	
	Collaborative Design Studio II	
	Design Management I	
	Design Management II	

\*One additional course outside the New Media Communication Track

# Global Media and Communication Studies *Master of Arts Degree*

## SEMESTER III

GMCS 591	Internship	3
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## SEMESTER IV

GMCS 590	Media Communication Law	3
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### Global Communication Track (Choose Two of Following) 6

GMCS 535	International Advertising and Public Relations	
GMCS 543	Communication and National Development	
GMCS 555	News Media and International Journalism	
GMCS 557	Political Communication and Public Diplomacy	
GLDP 522	International Conflict and Negotiation	
MKTG 550	Global Market Management	

\*One additional course outside the Global Communication Track

### New Media Communication Track (Choose Two of the Following) 6

GMCS 543	Communication and National Development	
GMCS 555	Media Business and Management	
GMCS 552	Advanced Web Publishing and Design	
GMCS 572	Advanced Multimedia	
	Collaborative Design Studio I	
	Collaborative Design Studio II	
	Design Management I	
	Design Management II	

\*One additional course outside the New Media communication Track

## SEMESTER V

GMCS 598	Tutorial	3
GMCS 599	Internship	3

## ENGLISH LANGUAGE REQUIREMENT

For applicants whose native language is not English, a minimum score of 213 (computer) or 550 (paper) on the TOEFL (Test of English as a Foreign Language) is required. Exception to these requirements will be considered on a case-by-case basis in consultation with the Director of the University's English Language Institute and following completion of an oral and written English exam that is administered by the English Language Institute. Students with demonstrated difficulty communicating in English may be required to take an advanced ELI course even if they have earned between 213/550 and 250/600 TOEFL scores.

## MINIMUM GRADE POINT AVERAGE REQUIREMENT

Candidates for the Masters of Arts in Global Media and Communication Studies are required to maintain a minimum semester grade point average of 3.0 to remain in good academic standing. The Master's degree may only be conferred upon a student who has

the minimum required average of a 3.0 at the conclusion of the student's studies. To receive credit for the completion of one of the tracks, a minimum of a "B" must be received in each course within the concentration.

Students failing to maintain minimum academic standards will be placed on academic probation at the end of the first semester in which they do not maintain a semester or overall GPA of at least 3.0 or earn a C- or lower grade in any class. If the student fails to raise his overall GPA above a 3.0 by the end of the semester following being placed on academic probation, fails again to earn at least a 3.0 semester GPA or again earns a C- or lower grade in any class, she or he will be separated from the GLDP program.

A student separated from the program may apply for readmission to the program following a minimum of one semester of not participating in the program.

## Curriculum

### Core Curriculum (Required for both Program Tracks):

GLDP/GMCS 501	Research Methods	3
GMCS 529	Advanced Intercultural Communication	3
GMCS 511	Communication Theories	3
GMCS 537	Global Communication and Mass Media	3
GMCS 590	Media Communication Law and Legal Issues	3
GMCS 591	Internship	3
GMCS 598	Tutorial	3
GMCS 599	Thesis or Project Demonstrating Excellence (PDE)	3
		<hr/> 24

### Required Courses for Track Options (Take GMCS 543 and two additional courses)

#### Requirements for Track A: Global Communication Track:

GMCS 555	News Media and International Journalism	3
GMCS/GLDP 543	Communication and National Development	3
GMCS 557	Political Communication and Public Diplomacy	3
GMCS 535	International Advertising and Public Relations	3
GLDP 522	International Conflict and Negotiation	3
		<hr/> 9

#### Requirements for Track B: New Media Communication Track: (Take GMCS 546 and two additional courses)

GMCS 518	Traditional Media and New Media	3
GMCS 552	Advanced Web Publishing and Design II	3
GMCS 572	Advanced Digital Video Creation II	3
GMCS 546	Social Media, Business and Society	3
GMCS/GLDP 543	Communication and National Development	3
		<hr/> 9
	Free elective	3

**Total Semester Hours** 

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 **36**

# Mechanical Engineering *Master of Science Degree*

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Engineering Technology Building  
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This degree program provides advanced study in traditional and contemporary Mechanical Engineering fields. The traditional concentration areas permits the student to increase his/her knowledge and competence in basic skills necessary to Mechanical Engineering while affording sufficient freedom to provide in-depth study in such areas as solid mechanics, structural dynamics, fluid mechanics, heat transfer, mechanical design and computational methods. The Design Management concentration area prepares the student to succeed in the current Design/Engineering industry and business. Studies include CAD/CAE/CAM, Ergonomics, Design and Innovation, and Intellectual Property and Technology. The Manufacturing Management concentration area provides advanced study in Manufacturing to individuals who are interested in the Manufacturing field. This permits students to have up-to-date knowledge, hands-on experience and strong competence in world-class manufacturing environments. Course work emphasizes global corporate and business practices, and Manufacturing Shop Floor environments.

## **Learning Outcomes**

Students will 1) demonstrate the ability to design or analyze a system, component or process to meet desired needs within realistic, contemporary constraints such as health and safety, ethics, performance, sustainability and economics; 2) develop specialized advanced skills in mechanical engineering fields including fluid mechanics, heat transfer, material science, dynamics, vibrations, numerical methods, design and manufacturing; 3) demonstrate the ability to create, adapt, transfer and integrate existing and emerging technologies into new products, processes and services; 4) develop decision making, risk assessment and problem solving skills considering both economic and other constraints; and 5) develop both technical and management oral presentation and written communication skills.

## **Admission Requirements**

The Master of Science degree in Mechanical Engineering is intended to prepare individuals with a strong mathematical, scientific, or technical background for entry into the Mechanical Engineering field at an advanced level and for further study leading to the doctorate. Admission to the program requires a Bachelor's degree in Mechanical Engineering or a related engineering and/or design curriculum and make up of any deficiencies in previous training. Furthermore, an undergraduate background that includes elementary physics and calculus sequences, and linear algebra is required. The Design Management concentration area also requires a substantial proficiency in design to be demonstrated via previous design training or work experience. The Manufacturing Management concentration area requires an engineering/business background with substantial industrial experience. Applicants are expected to have an average of B or better in their undergraduate coursework.

In addition, the department also offers the opportunity to acquire dual graduate degrees along with the M.S. degree in Mechanical Engineering. Candidates for these dual Masters degree programs are typically required to complete a total of 48 credit hours to satisfy the requirements of two Masters degrees. This implies 18 credit hours in addition to the 30 hours required for the M.S. degree in Mechanical Engineering.

Please refer to the Graduate Studies Division catalogue pages for detailed information on Dual Graduate Degree programs. Furthermore, customized study plans to allow receiving the Mechanical Engineering M.S. degree while pursuing either the Ph.D. degree in Computer Science and Engineering or the Ed.D. degree in Education are available. Doctoral students in these two programs should consult their respective doctoral advisors to work on their individualized plans. Further details on the dual M.S. in Mechanical Engineering degree programs are available in the catalog section on the Graduate Studies Division.

## **COURSE REQUIREMENTS**

Programs of Study will ordinarily consist of a minimum of 30 semester hours and include at least 12 semester hours from one of the following concentration areas:

### **TRADITIONAL CONCENTRATION AREA:**

MEEG 410 Advanced Fluid Dynamics	3
MEEG 452 Advanced Vibration	3
MEEG 453 Finite Element Methods	3
MEEG 454 Advanced Dynamics	3
MEEG 463 Advanced Heat Transfer	3
MATH 401 Advanced Analysis	3

### **DESIGN MANAGEMENT CONCENTRATION AREA:**

*(Take 3 credits from Traditional Core Courses)*

MEEG 421 Computer Aided Engineering/Design	3
MEEG 422 Advanced CAE/CAD Projects	3
MEEG 423 CAM & NC Machining	3
MEEG 430 Design & Innovation	3
MEEG 440 Ergonomics	3
MEEG 490 Intellectual Property & Technology	3

### **MANUFACTURING MANAGEMENT CONCENTRATION AREA:**

*(Take 3 credits from Traditional Core Courses)*

MEEG 407 Materials & Methods in Manufacturing	3
MEEG 423 CAM & NC Machining	3
MEEG 571 Innovations & Product Development	3
MEEG 572 Production Technology & Techniques	3
MEEG 573 Supply Chain Management	3
MEEG 574 Principles of Logistics	3
MEEG 575 Manufacturing Strategy	3

Students must elect one of the following to satisfy state licensure requirements:

- Thesis MEEG 598 (6 semester hours)
- Masters Project MEEG 597 (3 semester hours)

The elective courses may be chosen from the list of Mechanical Engineering concentration areas or chosen in consultation with the graduate advisor.

# Technology Management *Master of Science Degree*

*Chair:* Gad Selig  
Schools of Business and Engineering  
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The Master's Program in Technology Management (TM) is designed to prepare you for the fast-moving global economy where the ability to manage advances in management, engineering, science and technology is critical to innovation, competition and success. We develop leaders adept at managing technology-dependent organizations, emerging technology-based entrepreneurial businesses, technology change and innovation, and skills in establishing and maintaining superior competitive advantages for their organizations.

The Master's program is an innovation interdisciplinary graduate program that enables you to seamlessly and easily integrate courses and concentrations offered by various departments and schools at UB. Our graduates have obtained positions in engineering, technology, management and other professional careers in a wide spectrum of industries and organizations. As an integral part of the M.S. in TM, we give you the opportunity to specialize in a number of exciting concentrations after you complete specific core courses. Thus preparing you for select highly sought after industry certifications.

The MS in Technology Management program is accredited by the International Association for Management of Technology (IAMOT).

Our school has a strong internship program which allows students to work for outside companies while completing their degree. We also have on-campus jobs both within and outside the TM department.

## Learning Outcomes

The UB Technology Management Program is specifically designed to develop skills and competencies such as:

1. Identifying and evaluating the impact of relevant changing technology and managing those changes.
2. Designing programs to identify, develop and implement innovative technological based solutions.

3. Managing the effective planning and execution of those technology based initiatives and the integration of their results into the mainstream of an enterprises' strategy, processes and operations.
4. The application of technology to create wealth.
5. Leadership, the creation and sustenance of high-performance global teams and enabling innovation.

The Department offers, as an integral part of the Technology Management Masters Degree, the opportunity to specialize in a number of concentrations, which are inter-disciplinary and available through various departments to provide more educational and career choices and flexibility for the students:

- Global Program and Project Management
- Manufacturing Management
- Supply, Logistics and Service Management
- Quality Management & Continuous Improvement
- Bio-Technology Management
- Information Technology & Analytics Management
- New Product Development, Management & Commercialization

## Course Requirements

- A. A total of 34 semester hours is required in an approved program of study for the M.S. in Technology Management.
- B. Completion of the following core courses (18 credit hours):

TCMG 400	Marketing, Entrepreneurship and Innovation Issues & Practices in Management
TCMG 495	Technical Writing in Communications and Research in Engr & Tech Mgmt
TCMG 524	Statistical Quality Control Techniques
MGMT 555 or MGMT 632 or MGMT 723	Global Program & Project Management
MGMT 523 or MGMT 723	Leadership, Teams and Managing Change
TCMG 525	Finance and Accounting for Managers

- C. Completion of TCMG 595 Capstone or TCMG 597 Master's Project or TCMG 598 Master's Thesis (3 credit hours):

TCMG 595 is a Capstone/Project course designed to integrate concepts taught throughout the program and requires the development of a Business Plan as one of the course requirements.

Students may alternately complete a thesis or master's project.

- D. Completion of ENGR 400 (1 credit)

- E. Elective Courses (12 credit hours)

Students must take four elective courses (12 credit hours). These electives may be selected from any of the concentration areas listed above, in consultation with the program academic advisor. A list and description of the courses available in each concentration is available in the catalog section on course descriptions.

The concentration areas can be applied to satisfy the requirements of dual Masters degree programs of study.

Other Technology Management project courses:

TCMG 500	Graduate Co-Op/Internship in Technology Management (1-3 credit hours)
TCMG 597	Master's Project (3 credit hours)
TCMG 597C	Masters Project Extension (1 credit hour)
TCMG 598	Thesis in Technology Management (3-6 credit hours)
TCMG 599	Independent Study in Technology Management (3 credit hours)

As a pre-requisite for the program, all students are expected to have a demonstrated familiarity with statistical analysis. Any remedial course taken to meet this requirement will not be considered as an elective. Students are also expected to demonstrate basic computing skills.

Since July 2004, the Department of Technology Management has been offering these courses for the M.S. degree program in Technology Management through distance learning. For more information please contact the department or visit: <http://www.bridgeport.edu/ub/dlearning/>

# Computer Science and Engineering *Ph.D. Program*

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## *Program Coordinator:*

Prof. Khaled Elleithy  
Engineering Technology Building  
Telephone: (203) 576-4703  
Fax: (203) 576-4765  
Email: elleithy@bridgeport.edu

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The Ph.D. degree is a certification of critical aptitude in scholarship, imagination, knowledge in the discipline, enterprise in research, and proficiency and style in communication. A candidate obtaining a Ph.D. degree must display a thorough understanding in the major areas of computer science and engineering and must master the necessary tools and techniques so as to be able to make original contributions to the field of computer science and engineering. An equally important aspect is that of proficiency in oral and written communication skills.

The requirements of the Ph.D. program are: successful completion of preliminary examinations and courses, satisfactory performance in written comprehensive and oral examinations, admission to Ph.D. candidacy, successful completion and defense of original work documented as a dissertation, and the satisfaction of additional requirements such as teaching and seminars.

The formal degree to be offered is the Doctor of Philosophy in Computer Science and Engineering. This will be awarded to candidates who complete all the requirements of the Ph.D. degree described later in this section.

## **Admission Requirements**

Students admitted to the Ph.D. program should have a master degree in computer science or engineering or related discipline with at least a 3.3 GPA. Interested students in the Ph.D. program without an M.S. degree must apply and be admitted into the M.S. program first, and then upon finishing the M.S. degree, they would be eligible to apply for the Ph.D. program.

Students admitted from non-English speaking foreign countries, having a master's degree in computer science and engineering will also be required to have a TOEFL score of at least 550. GRE's are not required for admission into the program, but are recommended.

## **Learning Outcomes**

The graduate from the Ph.D. program in the School of Engineering will: 1) use advanced mathematical proof methodologies in computer science and engineering; 2) demonstrate a strong and in depth background in hardware and software issues in computer science; 3) possess a strong background in implementing software systems and/or hardware systems; 4) possess a strong background in designing diverse and integrated software/hardware systems solutions; and 5) critically analyze problems and thoroughly evaluate potential benefits of alternative solutions in designing software and/or hardware systems.

## **Program Requirements**

### A. Academic Requirements:

1. Completion of the formal requirements for an MSc. degree in computer science or computer engineering, including a thesis.
2. An additional eight (3-credit hours) courses, or 24 credit hours, in the discipline, including no more than two independent studies.
3. A two-semester teaching practice requirement (3 credit hours each), for which students are to register with no fees. The students will be expected to teach lower undergraduate level classes, and/or assist professors as teaching assistants (i.e., perform a significant teaching role), thus giving Ph.D. graduates experience for an academic teaching career.
4. At least 15 semester hours of dissertation research, culminating in a dissertation proposal defense and dissertation defense.
5. Comprehensive examination: written and oral (proposal defense).
6. Publication of at least two journal papers, or one journal and two refereed conference papers, within the course of the Ph.D. topic research. These publications are not required to be single authored by the student and they might be co-authored with members of the dissertation committee.

### B. Time and Load Guidelines:

Both full and part-time students are encouraged to apply for the Ph.D. degree, which should be completed within a maximum of seven calendar years. A Ph.D. student (part-time or full-time) is expected to devote the necessary time to courses and research in order to make satisfactory progress toward the degree. Satisfactory progress includes active personal participation in the research and teaching environment of the School of Engineering. The student advisor and dissertation committee should advise the student as to her/his progress in the program. Full time students are required to register for at least 9 credit hours each semester while part-time students are required to register for at least 6 credit hours per academic year (spring and fall semesters).

### C. Course Work:

A Ph.D. candidate must complete at least 24 credit hours of course work, not including the dissertation, beyond the MSc. degree. Upper level undergraduate remedial courses cannot be used to fulfill the course work requirement.

### D. Course Grade Point Average:

A Ph.D. student is expected to maintain a G.P.A. of 3.0 or more. If the G.P.A. falls below 3.0, the student is automatically placed on probation. (Note: the grades in the transferred courses would not be used in the calculation of G.P.A.). Continued probationary status for two semesters may lead to dismissal of the candidate from the program. No grade less than C is acceptable towards the course work requirement.

### E. Seminar Requirement:

A Ph.D. student is expected to present her/his research findings in public seminars. S/he is also expected to interact and participate in professional discussions and meetings such as conferences and workshops. In order to fulfill these requirements, a Ph.D. student is expected to present one seminar after the written comprehensive examination and before the dissertation defense. The seminar of his/her research topic for the dissertation serves as the oral (proposal defense) part



# Computer Science and Engineering *Ph.D. Program*

of the comprehensive exam. The Ph.D. coordinator awards a Pass/Fail grade after consultation with the student's dissertation advisor. The student is required to register for one seminar course.

## F. Comprehensive Examination:

One of the major checkpoints in the Ph.D. program that assesses the breadth and depth of the student is the written and oral (proposal defense) comprehensive examination. The comprehensive examination will test the breadth and depth of knowledge in all aspects of computer science and engineering.

The Ph.D. program coordinator will organize this comprehensive examination. The seminar requirement represents the oral (proposal defense) section of the exam. The outcome of this examination will be of fail or pass. A student can re-take this examination no more than once. A student who does not pass the comprehensive examination in two attempts will be dismissed from the program.

## G. Dissertation Committee:

After passing satisfactorily the written comprehensive examination and selecting a dissertation advisor, the student is required to define a problem of merit, carry out a literature search and prepare a course of action to solve the selected problem. The candidate is expected to produce a dissertation proposal. The Ph.D. program coordinator, in consultation with the dissertation advisor, recommends a dissertation committee for the student. The dissertation committee contains at least three members in addition to the dissertation advisor. At least four members of the dissertation committee must be from a professorial rank within the school. Additionally, an external examiner is appointed as well. The external examiner is one who has been distinguished in the field of computer science and engineering. S/he might not hold a professorial rank. Ph.D. Program Coordinator and the Dean of the School of Engineering must then approve the dissertation committee.

## H. Admission to Candidacy:

When a student passes the comprehensive examination and fulfills all other

requirements, s/he will be admitted to Ph.D. candidacy. This serves as another important milestone in the progress towards the Ph.D. degree.

## I. Dissertation:

The student is expected to work on the accepted topic and come up with original results. S/he has to report the results in the form of a Ph.D. dissertation. The student is encouraged to document the intermediate results in the form of technical reports. S/he is also encouraged to publish these results as they are discovered, in the international professional literature, i.e., refereed conference proceedings and journals. Proof of good work is the acceptance of the results by reputed journals. Intermediate results can also be discussed in departmental seminars. The completed dissertation must be distributed to the dissertation committee members at least two weeks before the dissertation defense. The committee will read it and certify that the dissertation is a work of substantial merit and that it can be defended. It is the responsibility of the student that the final draft of the dissertation addresses all legitimate concerns of the committee members.

## J. Dissertation Defense Examination:

After having secured approval from the dissertation committee members regarding the worthiness of the dissertation, a student will proceed with a request for the dissertation defense examination. The chairman of the dissertation committee will chair the examination. The student will schedule a convenient time for a public defense. It is the responsibility of the student to find a time that is suitable to all the members of the dissertation committee, at least 2 weeks prior to the defense. At the end of the defense, the decision of the dissertation committee will be pass or fail. It is the responsibility of the dissertation advisor to see that the comments and the criticism of the audience are addressed adequately in the final version of the dissertation. Based on the recommendation of the dissertation committee, the Ph.D. coordinator, and the Departmental Chairman, the Dean of the School of Engineering will recommend the Ph.D. degree subject to the satisfaction of all other formal requirements.

## CONCENTRATION AREAS

The following is a list of Research / Concentration Areas under the Ph.D. Program.

1. Computer architecture and VLSI and FPGA
2. Design, modeling and simulation of embedded and integrated systems
3. Electromechanical systems prototyping and optimization
4. Robotics, automation, machine perception and sensing
5. Software engineering, Web development and computational sciences
6. Systems and computer security and biometrics
7. Wireless and mobile computing and networking.
8. Information Technology Globalization Track

## SUMMARY OF MILESTONES

A summary of steps, not necessarily ordered, through which a student will proceed is as follows:

1. Admission to the Ph.D. program of computer science and engineering on a 'provisional status', if needed.
2. Completing prerequisites and finish the master degree, if needed.
3. Getting the status restored to 'regular Ph.D. student', if needed.
4. Completing the course work requirement for the Ph.D.
5. Passing the written comprehensive examination.
6. Admission to 'Candidacy'.
7. Selection of a dissertation advisor.
8. Writing a dissertation proposal.
9. Completion of the seminar requirement and working on the proposed research topic.
10. Formation of dissertation committee.
11. Approval of the dissertation by the dissertation committee.
12. Successful completion of the dissertation defense.
13. Submission of dissertation to the School of Engineering.
14. Graduation with a Ph.D. degree in Computer Science and Engineering.

# Technology Management *Ph.D. Program*

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## **Program Overview**

The Ph.D. in Technology Management (TM) is designed to meet an emerging industry and academic need by offering a quality doctoral program to both part-time and full-time students in two inter-related areas: 1) new technology venture creation (e.g. entrepreneurship and corporate venturing), and 2) select current and emerging technologies. The program will encompass an integrated multidisciplinary technology and management approach.

The Ph.D.-TM program is specifically designed to develop interdisciplinary skills and competencies in research and management of technology-dependent enterprises, technology-based entrepreneurship and new product, service and venture creation. While the Ph.D.-TM is housed in the School of Engineering, the Ph.D. degree facilitates and encourages interdisciplinary studies across the School of Engineering and the School of Business and utilizes their complementary research facilities, faculty and lab resources.

The Ph.D. degree is a certification of critical aptitude in scholarship, creativity, knowledge in the discipline, enterprise in research, and proficiency and style in communication. A candidate obtaining a Ph.D. degree must display a thorough understanding in the major areas of Technology Management and must master the necessary tools and techniques so as to be able to make original contributions to the field of Technology Management. An equally important aspect is that of proficiency in oral and written communication skills.

The requirements of the Ph.D. program are: successful completion of preliminary examinations and courses, satisfactory performance in the written comprehensive and oral (proposal defense) examinations, admission to Ph.D. candidacy, successful completion and defense of original work documented as a dissertation, and the satisfaction of additional requirements such as teaching courses, seminars and publications.

The formal degree to be offered is the Doctor

of Philosophy in Technology Management. This will be awarded to candidates who complete all the requirements of the Ph.D. degree described later in this section.

## **Ph.D. in Technology Management Program-Level Learning Objectives**

The Ph.D. in Technology Management Program goals are in line with the mission statement of the School of Engineering of the University of Bridgeport. In this regard, the Ph.D. program is designed to provide comprehensive education and research opportunities to a diverse student population consisting of highly qualified and competent students, scholars, industry professionals and researchers in engineering, sciences, and the application and management of technology. The program aims at preparing these highly credentialed individuals for leadership and technology positions in industry, government, and academia with significant contribution to the profession and community locally, nationally, and globally. The program offers an application oriented interdisciplinary curricula to provide a distinctive education in fundamental and emerging disciplines through its faculty and institutional partners while ensuring that the graduates possess creative, innovative, and analytical skills with a strong commitment to research and technical excellence, ethical conduct, and cultural, societal, and global well-being.

### **PROGRAM GOALS:**

- To prepare highly qualified and competent Ph.D. level scholars, industry professionals and researchers in the advance and interdisciplinary field of Technology Management.
- To prepare Ph.D. level scholars, industry professionals and researchers who are able to conduct research and develop strategies and plans to identify, develop and implement innovative technological based solutions while championing and sustaining innovation initiatives and environments.
- To prepare Ph.D. level scholars, industry professionals and researchers who are able to manage the effective planning and execution of those technology

based initiatives and the integration of their impact into the mainstream of an enterprises' strategy, processes and operations.

- To prepare Ph.D. level scholars, industry professionals and researchers who are able to manage the application of technology to create wealth and economic development as in successful entrepreneurship and/or intrapreneurship or corporate venturing initiatives.
- To develop future leader and managers in technology or technology dependent organizations that are able to lead and motivate high-performance and diversified global teams.

### **OUTCOMES ASSESSMENT:**

There are two types of outcomes that need to be monitored: Institutional Outcomes and Student Outcomes.

### **STUDENT OUTCOMES:**

1. Familiarity with principles of new venture creation, entrepreneurship, corporate venturing, innovation, and related issues including management, finance, legal issues, new product development, and product commercialization.
2. Familiarity with advanced concepts of methodologies in technology management.
3. Possessing a strong background in one or more engineering and technology area offered in the Ph.D. program.
4. Possessing a strong background in implementing new technology based businesses and ventures.
5. Being able to critically analyze problems and evaluate the benefits of alternative solutions in new technology-based international opportunities and corporate ventures.
6. Being able to work in a development team to address specific issues and problems.
7. Being able to interact and communicate both verbally and in writing with people whose expertise is in different domains and who are located across the globe.
8. Being able to effectively teach in a higher education institution.

# Technology Management *Ph.D. Program*

9. Being able to write quality research papers for inclusion in prominent journals, and research proposals for submission to funding agencies.
10. Being prepared to become a future leader, professional, academic and researcher with interdisciplinary skills, to join the faculty of leading academic institutions or take high level research, consulting and management positions in industry, non-profit organizations, government or start their own ventures.

## Admission Requirements

The Ph.D. in Technology Management program is an advanced level program. Students are expected to demonstrate an understanding of fundamental concepts in management and technology gained through appropriate undergraduate and graduate (master) education. Students who are accepted into the Ph.D. program but lack some of those fundamental concepts will be required to remedy their deficiencies through completing satisfactory undergraduate or graduate courses (without graduate credit).

Students admitted to the Ph.D. program should have a business or management degree as well as an engineering, computer science or technology degree. To be more specific, a student should have either an (1) undergraduate Engineering or Technology (STEM\* category) and an MBA or MS in Technology Management or Engineering Management or Management of Technology or equivalent degree; or (2) an undergraduate Business or Management or TM or MOT or equivalent and a Master's degree in Engineering, Technology or STEM category, with at least a 3.3 GPA. Three+ years of industry experience or equivalent is desired. Students admitted from non-English speaking countries, having a Masters degree in engineering and an undergraduate in business or vice-versa will also be required to have a TOEFL score of at least 550 or equivalent (IBT = 80, IELTS = 6.5). The GRE exam is required for admission. Students with an undergraduate and graduate degree in engineering or a STEM category, with three or more years of business experience, may also be accepted into the Ph.D. program. The applicant must submit two letters of reference and a personal statement (containing such information as

background; experience, motivation for pursuing the Ph.D. in TM areas and suggested topics for potential dissertation research, etc.)

Interested students in the Ph.D. program without a master's degree must apply and may be admitted into a master's program first, and then upon satisfactorily completing the master's degree, they would be eligible to apply for the Ph.D. program. This route assumes an appropriate Bachelor's degree (see above).

\*STEM = Science, Technology, Engineering or Math; MOT= Management of Technology.

Please refer to both the General Admissions Information and the Ph.D. TM for detailed requirements. (<http://www.bridgeport.edu/admissions> and <http://www.bridgeport.edu/Phd-TM>)

## Academic Requirements

The requirements for Ph.D. in TM students include the following:

The Ph.D. in TM is an interdisciplinary degree for which all Ph.D. students must take a common core of five (5) required courses and choose from elective courses from Area 1 (New Technology Venture Creation) and Area 2 (Current and Emerging Technologies – Technology Specializations). Each student can choose elective courses from three study options (see below and Appendix 1). A list and short description of core and elective courses by specialization is provided in Appendix 2.

- Focus on Area 1 – New Technology Venture Creation (e.g. Entrepreneurship and Corporate Venturing): Number of courses to be taken in Area 1 is three courses each from Area 1 and two courses each from Area 2 (in one of the Technology Specializations).
- Focus on Area 2 – Current and Emerging Technologies – (Technology Specializations) Number of courses to be taken in Area 2 is four from Area 2 from one of the following Technology Specialization areas and one from Area 1. The Technology Specialization areas focus on one of the following:
  - Bio-Tech and Bio-Medical Technology, Systems and Processes
  - Information Analytics, Technology and Decision Support Systems
  - Manufacturing, Supply Chain and Logistics Technology, Systems and Processes

- Combination of Areas 1 and 2 – Number of courses to be taken is two each from Area 1 and three each from Area 2. In Area 2, the students must pick courses from one Technology Specialization area for depth coverage.

## TIME AND LOAD GUIDELINES

The program will admit both full and part-time students. For all students, the program must be completed within a maximum of seven calendar years. If a student requires more than seven years, he/she must file a letter of appeal requesting a time extension to the Dean of the SOE and the Ph.D. program coordinator. A Ph.D. student (part-time or full-time) is expected to devote the necessary time to courses and research in order to make satisfactory progress toward the degree. Satisfactory progress includes active personal participation in the research and teaching environment of the School of Engineering. The student advisor and dissertation committee should advise the student as to his/her progress in the program. Full time students are required to register for at least nine credit hours each semester while part-time students are required to register for at least six credit hours per academic year (spring and fall semesters).

## TIME LIMITS

All requirements for the doctoral degree must be completed within the seven-year period (accumulating to 21 Fall, Spring, and Summer semesters) following admission to the doctoral program.

## TIME LIMIT EXTENSION REQUEST

Under compelling circumstances beyond the student's control, a student may petition for a one-semester extension of the seven-year time limit. If the one-semester extension is recommended by the Ph.D. in Technology Management Program Director and approved by the Dean, the student has one additional semester to complete work on the dissertation. If the student fails to complete all degree requirements within the time for the student's doctoral program or within a one-semester extension approved as noted above, the student will be dismissed from the doctoral program. To complete the doctoral degree, the student

# Technology Management *Ph.D. Program*

must reapply for admission. Policies do not provide the option to revalidate courses completed more than six years prior to the date of admission. A readmitted student therefore would be able to apply to the new admission only those courses approved by the department and Graduate School and complete within the prior six years (accumulating to 18 Fall, Spring, and Summer semesters).

## COURSE WORK

A Ph.D. candidate must complete at least 30 credit hours of course work, not including the dissertation, beyond the Masters degree. Upper level undergraduate remedial courses cannot be used to fulfill the coursework requirement. The Ph.D. dissertation will require a minimum of 15 credit hours to complete.

Courses must be selected as follows:

1. Five Core Courses of three credit hours each.
2. Additional five (three credit hours each) courses in specific areas\*\*
3. A one-semester teaching practicum requirement (no credit hours).

## COURSE GRADE POINT AVERAGE

A Ph.D. student is expected to maintain a G.P.A. of 3.0. If the cumulative G.P.A. falls below 3.0, the student is automatically placed on probation. (Note:grades for transferred courses are not included in the calculation of the University of Bridgeport GPA). Continued probationary status for two semesters will lead to dismissal of the student from the program.

\*Students admitted to the Ph.D. program should have a business or management degree as well as an engineering, computer science or technology degree. To be more specific, a student should have either: (1) An undergraduate Engineering or Technology (STEM = Science, Technology, Engineering and Mathematics category) degree and an MBA or MS in Technology Management or Engineering Management or Management of Technology (MOT) or equivalent graduate degree; or (2) an undergraduate Business or Management or TM or MOT or equivalent degree and a Master's degree in Engineering, Technology or STEM.

\*\* Area 1 – New Technology Venture Creation and Area 2 – Select Current & Emerging Technologies (see Ph.D. Program Structure for

additional requirements and areas) No grade less than C is acceptable towards course work requirements.

## PH.D. PROGRAM DIRECTOR

The Dean of the School of Engineering will appoint a director for the doctoral program. The director supervises the implementation of the Ph.D. program. S/he is responsible for coordinating administrative functions related to the Ph.D. program including admission, marketing, appointment of advisors, and formation of dissertation committees, for each doctoral student. In addition, the director is charged with preparing and administering the preliminary and the comprehensive examinations. The director is also responsible for recommending courses for students who may not have the proper prerequisites for certain courses.

## ADVISOR

Each Ph.D. candidate, in her/his first semester, will be assigned a program advisor by the Ph.D. program director. The advisor will develop a program of study for the student and monitor his/her progress until a dissertation committee is formed for the student. A dissertation advisor will be appointed for each student after he/she passes the comprehensive exams and perform all subsequent advising. The program advisor and dissertation advisor may be the same person or two different people. A student is required to form a dissertation committee in conjunction with the Ph.D. program director after finishing the core Ph.D. courses (and passing the candidacy examinations), so that a better understanding of the various topics and research interests in the department will, by then, have been achieved.

## COMPREHENSIVE EXAMINATION

One of the major checkpoints in the Ph.D. program that assesses the breadth and depth of the student's academic accomplishment and progress is the candidacy examinations and oral dissertation proposal defense examination. The candidacy examinations will test the breadth and depth of knowledge in all aspects of Technology Management related to the body of knowledge required for the Ph.D. in Technology Management, including but not limited to, the core curriculum courses, and the courses in Areas 1 and 2. The can-

didacy examinations should be taken at the completion of all course work.

The Ph.D. Program Director will organize these candidacy examinations, which will be developed and graded by faculty. The outcome of this examination will be a fail or pass. A student can sit for this examination twice. A student who does not pass the candidacy examinations in two attempts will be dismissed from the program. A student may submit an appeal regarding the potential dismissal from the program.

## DISSERTATION COMMITTEE AND ORAL DEFENSE OF PROPOSED DISSERTATION TOPIC IN A PUBLIC SEMINAR

After passing the required examinations and selecting a dissertation advisor (or having an advisor appointed), a student is required to define a problem of merit, carry out a literature search and prepare a course of action to solve the selected problem. The candidate is expected to produce a dissertation proposal, which must be orally defended in a public seminar. The Ph.D. director awards a Pass/Fail grade after consultation with the student's dissertation advisor and committee.

The Ph.D. Program Director, in consultation with the dissertation advisor, recommends a dissertation committee for the student. The dissertation committee contains at least three members in addition to the dissertation advisor. At least four members of the dissertation committee must be from a professional rank within the School of Engineering and/or other schools. Additionally, an external examiner is appointed as well. The external examiner is one who is distinguished in the field of Technology Management. The Ph.D. Program Director and the Dean of the School of Engineering must approve the dissertation committee.

## ADMISSION TO CANDIDACY

Every student enrolled in the Ph.D. in Technology Management degree program must take a candidacy examination administered by the program director and the graduate faculty. The candidacy exam aims at assessing the capability of the student conducting doctoral research based on evidence of critical thinking, problem solving, conducting original research and other measures viewed as essential func-

# Technology Management *Ph.D. Program*

tions of a successful doctoral student. When a student passes the candidacy examination and fulfills all other requirements, s/he will be admitted to Ph.D. candidacy.

## PH.D. DISSERTATION

The student is expected to work on the accepted topic and original results. S/he must report the results in the form of a Ph.D. dissertation. The student is encouraged to document the intermediate results in the form of technical reports. S/he is also encouraged to publish these results as they are discovered, in international professional literature, i.e. refereed conference proceedings and journals. Intermediate results can also be discussed in departmental seminars. The completed dissertation must be distributed to the dissertation committee members at least two weeks before the dissertation defense. The committee will read it and certify that the dissertation is a work of substantial merit and that it can be defended.

It is the responsibility of the student that the final draft of the dissertation addresses all legitimate concerns of the committee members.

## DISSERTATION DEFENSE EXAMINATION

After securing approval from the dissertation committee members regarding the worthiness of the dissertation, a student will proceed with a request for the dissertation defense examination. The chair of the dissertation committee will chair the examination. The student will schedule a convenient time for a public defense. It is the responsibility of the student to find a time that is suitable to all the members of the dissertation committee, at least two weeks prior to the defense. At the end of the defense, the decision of the dissertation committee will be pass or fail. It is the responsibility of the dissertation advisor to see that the comments and the criticism of the audience are addressed adequately in the final version of the dissertation. Based on the recommendation of the dissertation committee, the Ph.D. in Technology Management Director and the Dean of the School of Engineering will recommend the Ph.D. degree, subject to the satisfaction of all other formal requirements.

## SUMMARY OF MILESTONES

A summary of steps, not necessarily ordered, through which a student will proceed, is as follows:

- Admission to the Ph.D. program of Technology Management;
- Completing prerequisites, if needed;
- Completing the course work requirement for the Ph.D.;
- Passing the written comprehensive examination;
- Admission to 'Candidacy';
- Selection of a dissertation advisor;
- Writing a dissertation proposal and its oral defense;
- Formation of the dissertation committee;
- Approval of the dissertation by the dissertation committee;
- Successful completion of the dissertation defense;
- Submission of completed and approved dissertation to the School of Engineering;
- Graduation with a Ph.D. degree in Technology Management.

## Course Requirements

### CORE COURSES

- Exploration in Research Methodologies (TMPD 702)
- Research Design, Analysis and Measurement (TMPD 704)
- Quantitative Methodologies (TMPD 706)
- Technology New Venture Creation (TCMG 645)
- Strategic Management of Technology & Innovation (TCMG 620)
- Comprehensive Written Exams – Both Areas 1 & 2 (TMPD 694)
- Oral Defense of Dissertation Proposal (TMPD 699)
- One semester teaching practice requirement (TMPD 698)
- Completion of one published refereed Journal Paper or 2 refereed Conference Papers (No Credit)
- Ph.D. Dissertation (TMPD 710) (Minimum of 15 Credits)

## NEW TECHNOLOGY VENTURE CREATION

Select Elective Course Example

- Leadership, Teams & Managing Change
- New Product Development & Commercialization
- Small Business and Entrepreneurship
- Intellectual Property Management
- Project Management

## SELECT CURRENT & EMERGING TECHNOLOGIES (TECHNOLOGY SPECIALIZATION)

- Biotech & Biomedical Technology, Systems & Processes\*\*
- Environmental and Energy Technology, Systems and Processes
- Engineering Economics and Financial Engineering
- Information Analytics, Technology & Decision Support Systems \*\*
- Manufacturing, Supply Chain and Logistics Technology, Systems and Processes\*\*

(\* \*\* Initial Technology Specializations to be offered at program start)

## Summary & Short Course Descriptions

### CORE COURSES FOR PH.D. TM STUDENTS

Number	Name	Credit Hours
TMPD 702	Exploration in Research Methodologies	3
TMPD 704	Research, Design, Data Analysis and Measurement	3
TMPD 706	Quantitative Methodologies	3
TCMG 620x	Strategic Management of Technology and Innovation (Proposed new course)	3
TCMG 645	Technology New Venture Creation	3
TMPD 694	Written Comprehensive Examinations	0
TMPD 698	Teaching Practicum	0
TMPD 699	Seminar (Oral Defense of Dissertation Proposal)	0
TMPD 710	Ph.D. Dissertation	Min. 15

# Technology Management *Ph.D. Program*

## Elective Courses that can be taken by Ph.D. or MS Students:

### AREA 1 : New Technology Venture Creation

Number	Name	Credit Hours
TCMG 505 or MGMT 555	Global Program and Project Management 3	
TCMG 506	Advanced Program and Project Management	3
TCMG 508 or MGMT 565	Foundations of Product Management 3	
TCMG 512 or MGMT 590	Intellectual Property Management 3	
TCMG 523 / MGMT 523	Leadership, Teams & Managing Change 3	
TCMG 525	Finance and Accounting for Managers	3
TCMG 580x / MGMT 585x	New Product Commercialization 3	
TCMG 595	Global Business/ Technology Capstone	3
TCMG 532 / MKTG 560	Global Market Management 3	
TCMG or MGMT 582	Small Business and Entrepreneurship 3	
TCMG 559 or MGMT 560	Foundation of Business Process and Operations Management 3	

*Other courses to be approved by Advisor & Program Director*

### AREA 2 : Bio-Technology and Bio-Medical Technology, Systems and Processes

Number	Name	Credit Hours
BMEG/MEEG 508	Biomechanics	3
BMEG/ELEG 510	Medical Machines	3
BMEG/ELEG 513	Biomedical Image Processing	3
BMEG/TCMG 535	Foundations of Bio Tech Sciences and Management	3
BMEG/ELEG 547	Bio MEMS	3
BMEG/TCMG 555X	Biotechnology and Entrepreneurship	3
BMEG/ELEG 562	Nanofabrication with Soft Materials	3
BMEG/MEEG 563	Polymer Nanocomposites	3
BMEG 565	Biomedical Materials and Engineering	3
BMEG/MEEG 567X	Physiological Fluid Dynamics	3
BMEG 580	Tissue Engineering	3
CPSC 551	Advanced Database Design	3

*Other courses to be approved by Advisor & Program Director*

### AREA 2 : Information Analytics, Technology and Decision Support Systems

Number	Name	Credit Hours
CPSC 546	Services Oriented Architecture	3
CPSC 551	Advanced Database Design	3
CPSC 556	Data Mining	3
CPSC 555	Web-based Application Development	3
CPSC 562	Information Assurance (Security)	3
CPSC/CPEG 571	Internet Computing	3
TCMG 520	Information Systems Development and Design	3
TCMG 533	Information Technology Strategy and Governance	3
TCMG/MEEG 540	Simulation and Modeling	3
TCMG 521 or ITKM 505	Information Systems and Knowledge Management	3
TCMG/CPSC 568X	Foundation of Information Analytics	3
TCMG 571 or MGMT 571	Foundations of Service Management and Engineering	3
TCMG 549 or MGMT 548	Business Intelligence and Decision Support Systems	3

*Other courses to be approved by Advisor & Program Director*

### AREA 2 : Manufacturing, Supply Chain and Logistics Technology, Systems and Processes

Number	Name	Credit Hours
TCMG 524	Statistical Quality Control Techniques	3
TCMG/MEEG 530	Foundations of Manufacturing Management	3
TCMG 534 or MGMT 534	Strategic Sourcing and Vendor Management	3
MEEG 512x	Computational Fluid Dynamics	3
MEEG/ BMEG 567X	Physiological Fluid Dynamics	3
TCMG/ MEEG 572	Production Technology and Techniques	3
MEEG/TCMG 573 or MKTG 565	Supply Chain Management 3	
MEEG/ TCMG 574	Principles of Logistics	3
MEEG 575	Manufacturing Strategy	3
MEEG/TCMG 577X	Lean Manufacturing	3
TCMG 578X	Six Sigma	3
TCMG 559 or MGMT 560	Foundation of Business Process and Operations Management	3

*Other courses to be approved by Advisor & Program Director*