

## PROFESSIONAL MASTERS OF SCIENCE IN BIOINFORMATICS (BINF)

A professional science master's (PSM) recognized by the Alfred P. Sloan Foundation, the M.S. in bioinformatics has the goal of providing a path into industry. The program combines coursework from the biological sciences, mathematics, computer science and management. Capstone experiences emphasize solving problems from industry in a seminar in which students work in groups, and an internship.

### Admission Requirements

Students entering the program will meet the admission requirements of the Graduate School. In addition, students will show evidence on transcripts of having completed with a grade of C or better an introductory course in both biology and chemistry, an introductory computer programming course, a statistics course and one college calculus course. Students will also submit scores from the Graduate Record Examination (GRE), two letters of recommendation, and a personal statement.

The M.S. in Bioinformatics requires the completion of 34-35 hours of course work to be distributed among required courses and restricted electives as follows:

<b>Required Courses.....</b>	<b>28 hours</b>
BIOL551 Bioinformatics I (3 hrs)	
BIOL552 Bioinformatics II (3 hrs)	
CASI650 Current Challenges in Bioinformatics Seminar (3 hrs)	
CASI680 Internship in Bioinformatics (3 hrs)	
COSC576 Computational Tools in Bioinformatics (3 hrs)	
MATH566 Modeling in Bioinformatics (3 hrs)	
MATH570 Statistical Concepts and Methods for Bioinformatics (3 hrs)	
MGMT513 Business Communication Seminar (1 hr)	
MGMT602 Organizational Development (3 hrs)	
MGMT638 Building Continuous Improvement Teams (3 hrs)	
<b>Restricted Elective Courses.....</b>	<b>6-7 hours</b>
<i>One course from the following:</i>	
BIOL401 Genome Analysis (3 hrs)	
BIOL545 Recombinant DNA Technologies (3 hrs)	
<i>One course from the following:</i>	
COSC514 Fundamentals of Computer Science (4 hrs)	
COSC616 Algorithms in Bioinformatics (3 hrs)	
<b>Program Total .....</b>	<b>34-35 hours</b>

## INTERDISCIPLINARY GRADUATE CERTIFICATES

Eastern's interdisciplinary graduate certificates prepare students interested in a cross-cutting topic with a wider range of integrated knowledge, skills and methods to meet the challenges of contemporary professional practice. Interdisciplinary studies catalyze new knowledge from many disciplines by uniting them under a central theme with shared principles and related focal points.

Credit earned in these programs can be applied toward master's degree programs and, conversely, credits earned in the master's degree programs can bundle toward a certificate. Please contact the programs you are interested in for more details or click the Web site to see the program's offerings.

The two interdisciplinary certificate programs listed below provide a coordinated program of study in the area of working with nonprofit organizations in the community. Designed for executive directors, program managers, board members, consultants of nonprofit organizations and public administration professionals who want to develop competencies and peer networks to strengthen community organizations that, in turn, improve the quality of life for citizens. Each certificate is a five-course program of 12-15 credit hours with courses drawn from multiple disciplines and that can either enhance or apply towards a graduate program (such as M.B.A., M.P.A., M.S.W., M.L.A. or other M.A./M.S. programs). Convenient scheduling, Web-enhanced learning and practical active learning strategies for working professionals and adult learners.

## GRADUATE CERTIFICATE IN NONPROFIT MANAGEMENT (NPMG)

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This interdisciplinary graduate certificate is designed to develop management competencies for working professionals in public and nonprofit organizations. Competency areas cover practical skills for building management capacity of an organization, such as financial management of resources and accountability for performance; governance issues and the legal and ethical environment of nonprofit organizations; human resources; managerial techniques; and technology and information systems. Coursework is focused on management skill development for immediate, practical application of the knowledge gained from the program to nonprofit organizations, rather than concepts and theory. The program may provide a foundation for further graduate work in business, public administration, health and human service and other disciplines or extend the skills of professionals who already have graduate degrees, such as a master's in social work.

<b>Required Courses.....</b>	<b>14-15 hours</b>
<i>Financial Management, Accountability and Legal Competencies</i>	
ACC646 Financial Management of Nonprofit Organizations (3 hrs)	
LAW603 Legal Environment of Nonprofit Organizations (3 hrs)	
<i>Budgeting and Resource Management Competencies</i>	
<i>One course from the following:</i>	
ACC605 Strategic Information and Control Systems (3 hrs)	
PLSC540 Introduction to Government Budgeting (3 hrs)	
<i>Human Resource Management Competencies</i>	
<i>One course from the following:</i>	
MGMT609 Human Resource Management (3 hrs)	
MGMT628 Human Resource Development (3 hrs)	
PLSC515 Public Personnel Administration (3 hrs)	
SWRK570 Supervising Staff and Volunteers (3 hrs)	
<i>Networking, Application and Integration Competencies:</i>	
<i>One course from the following:</i>	
SWRK694 Community Action Seminar (2 hrs)	
SWRK662 Grant Writing and Resource Development (3 hrs)	
PLSC645 Intergovernmental Relations (2 hrs)	
<b>Certificate Total.....</b>	<b>14-15 hours</b>

## GRADUATE CERTIFICATE IN PUBLIC PERSONNEL MANAGEMENT (PPM)

<b>Required Courses.....</b>	<b>14 hours</b>
PLSC510 Modern Public Administration (3 hrs)	
PLSC515 Public Personnel Administration (3 hrs)	
PLSC665 Basic Arbitration Training for Professionals (2 hrs)	
<i>Two courses from the following:</i>	
MGMT611 HR and Technology (3 hrs)	
MGMT618 Staffing Organizations (3 hrs)	
MGMT620 Compensation Management (3 hrs)	
MGMT625 Management in Unionized Settings (3 hrs)	
MGMT628 Human Resources Development (3 hrs)	
ECON505 Collective Bargaining in Public and Private Sectors (3 hrs)	
<b>Certificate Total.....</b>	<b>14 hours</b>