GPS DIVISION OF GRADUATE PROFESSIONAL STUDIES
RABB SCHOOL OF CONTINUING STUDIES

MASTER'S DEGREES AND GRADUATE CERTIFICATES

We offer degrees and certificates in the following disciplines:

- Bioinformatics
- Information Assurance
- Information Technology Management
- Management of Projects and Programs
- Software Engineering
- Virtual Team Management and Communication

THE GPS COMPETITIVE EDGE

- Part of a world-class research university
- More focused than MBA programs
- Instructors are working professionals
- Representatives from leading companies serve on program advisory councils
- Knowledge immediately applicable on the job
- Small class sizes

OUR FLEXIBLE OPTIONS

- Take up to four courses before applying to a program
- GREs and GMATs are not required
- Part-time courses are offered on campus in the evening
- All programs are available online except Bioinformatics
- Sequential degrees are available

BRANDEIS UNIVERSITY

BRANDEIS UNIVERSITY
The Rabb School of Continuing Studies

Division of Graduate Professional Studies

PO Box 549110
Lower Campus, MS 084
Waltham, MA 02454-9110

781-736-8787
781-736-3420 Fax
gps@brandeis.edu

MASTER OF
Software Engineering

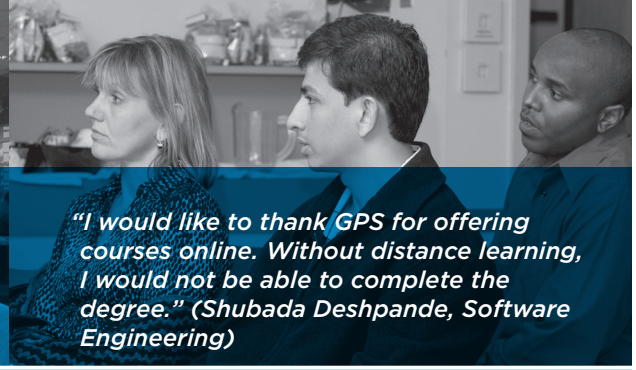
GRADUATE CERTIFICATE IN
Software Engineering

GPS DIVISION OF GRADUATE PROFESSIONAL STUDIES
RABB SCHOOL OF CONTINUING STUDIES

BRANDEIS UNIVERSITY

www.brandeis.edu/gps

SOFTWARE ENGINEERING



"I would like to thank GPS for offering courses online. Without distance learning, I would not be able to complete the degree." (Shubada Deshpande, Software Engineering)

Software engineering applies the principles of computer science and mathematics to achieving cost-effective solutions to software problems. It involves not only the technical aspects of building software systems but also management issues, such as directing programming teams, scheduling, and aligning information technology with organizational strategies.

PROGRAM OUTCOMES

Graduates of this program are prepared to:

- Apply a systematic, disciplined, quantifiable approach to the cost-effective development, operation, and maintenance of software systems to the satisfaction of their beneficiaries
- Build solutions using different technologies, architectures, and lifecycle approaches within different organizational structures, with demonstrated programming expertise in at least one language among C, C++, Java, and VB.Net
- Foster the development, adoption, and sustained use of standards of excellence for software engineering practices
- Speak and write effectively and think critically about a wide range of issues in the context of working constructively on software projects

PROGRAM ADVANTAGES

- Prepares students to participate effectively in integrated teams of software developers, end users, and other stakeholders
- Combines the disciplines of design, quality, programming, and management so that students can ensure the delivery of reliable software to increasingly large, complex, and international end markets
- Numerous electives allow students to carve out a path that aligns with their specialty areas

PROGRAM DELIVERY

The master's degree and graduate certificate are offered both on campus and online.

MASTER'S DEGREE REQUIREMENTS

PROGRAM PREREQUISITES

Students who lack a software engineering background or who want to refresh their knowledge prior to proceeding with graduate studies should contact the Division of Graduate Professional Studies at 781-736-8787.

REQUIRED COURSES *(Four in total)*

- Software Development Methodologies
- Choose one of the following **testing/software quality** courses; the remainder of the courses may be taken as electives:
  - Foundations of Software Quality Assurance
  - Software Test Process Evaluation and Improvement
  - Software Testing Techniques
- Choose one of the following **design** courses; the remainder of the courses may be taken as electives:
  - Architecture for Business and E-Commerce
  - Design Patterns
  - Object-Oriented Design
  - Service-Oriented Architecture: Distributed Enterprise Computing
- Choose one of the following **programming** courses; the remainder of the courses may be taken as electives:
  - Advanced C Programming for Unix/Linux
  - Advanced Programming in C++, Level 1
  - Advanced Programming in C++, Level 2
  - Advanced Programming in Java, Level 1
  - Advanced Programming in VB.Net
  - Java Enterprise Programming

ELECTIVE COURSES *(Choose six)*

- Computer Networks and Data Communications
- Data Warehousing and Data Mining
- Database Management
- Foundations of Project Management
- Foundations of Virtual Team Management across Cultures and Geographies
- IT Security and Compliance
- Knowledge Management
- Legal and Ethical Practices in IT
- Linux Administration
- Network Security
- Perl Programming
- Professional Communication **or** Leadership, Team-Building, and Decision-Making
- Securing Applications, Web Services, and SOA
- TCP/IP
- Unix Tools
- Web Development Technologies
- Windows Programming with C#
- XML and Related Languages
- Special Topics

GRADUATE CERTIFICATE

A credit-bearing graduate certificate in software engineering may be earned as a stand-alone credential. Refer to our Web site at **www.brandeis.edu/gps/programscourses/programs/seg** for more details.

ADMISSIONS

Information regarding admission requirements, policies, and procedures may be found at **www.brandeis.edu/gps/apply.**

CURRENT INFORMATION

Our programs and courses evolve along with the industry. Be sure to check our Web site at **www.brandeis.edu/gps/programscourses** for the most up-to-date listing of courses and requirements.