



# Northeastern University

## College of Engineering

Congratulations on your acceptance to the Master of Science (MS) Software Engineering Systems program at Northeastern University's Graduate School of Engineering!

As an incoming Fall 2024 student, there are some steps that you need to take before the Fall semester starts. **Please read this document thoroughly as it contains helpful information and can answer many of your questions before you start your first semester in your master's program.**

### **Step 1: Confirm your enrollment.**

You will not be able to register for classes (information below) until you confirm enrollment. You can confirm your enrollment by [logging into your application account](#) and paying the enrollment deposit. If you have any questions regarding this process, please reach out to the Graduate Admissions team at [coe-gradadmissions@northeastern.edu](mailto:coe-gradadmissions@northeastern.edu).

### **Step 2: Know your faculty advisor and administrative contacts.**

[Professor Kal Bugarra](#)

Program Director, Software Engineering Systems

[Professor Maricla Pirozzi](#)

Program Director, Information Systems – Bridge, and Data Architecture & Management

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### **Step 3: Complete your course registration.**

As a Software Engineering Systems student, you are **required to complete CSYE 6200: Concepts of Object Oriented Design and INFO 6205: Program Structure and Algorithms, as part of your degree requirements.** These are the only required courses in the Software Engineering Systems program and are important building blocks for your subsequent courses. **CSYE 6200 is a mandatory course for the Fall semester.** You will need to pair one of the recommended electives below with CSYE 6200 in your first semester. INFO 6205 is recommended to be taken in your second semester. We have several different elective options for our first-year students that will help you develop the skills you will need to be successful throughout the rest of your program.

Professor Kal Bugrara, the Director of the Software Engineering Systems program, has created the following advising guide for you to refer to as you choose your courses for this Fall. **Please register for Boston sessions of the courses.** You will not be able to take courses from other campuses.

**Please note class information is subject to change.**

### **CSYE 6200: Concepts of Object-Oriented Design**

This class will focus on the ins-and-outs of the Java programming language. The course introduces object-oriented design and programming via the Java programming language; the use of inheritance, composition, and interface classes in software design. The course is an excellent way for students to strengthen their development skills in preparation for the heavily programming courses that will be taken in later semesters.

### **Sections Available:**

Section 02: Friday 6:00 – 9:30 PM  
**CRN 12567**

Section 03: Monday 2:00 – 5:30 PM  
**CRN 12931**

Section 04: Tuesday 11:45 AM – 1:25 PM & Thursday 2:50 – 4:30 PM  
**CRN 16331**

Section 05: Tuesday & Friday 3:25 – 5:05 PM  
**CRN 16332**



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### Elective Offerings:

**Please note, if you are enrolled in a Boston section for an approved elective offering and do not see the section number listed in this guidance, you may remain enrolled in your current section.**

#### **CSYE 6205: Concepts of Object-Oriented Design with C++**

Introduces object-oriented design and programming via the C++ programming language. Covers the use of inheritance and composition in software design and development of complex C++ applications. Topics include classes, overloading, data abstraction, information hiding, encapsulation, inheritance, polymorphism, file processing, templates, exceptions, container classes, and low-level language features.

#### **Section Available:**

Section 01: **ONLINE** Saturday 12:00 – 3:00 PM  
**CRN 11936**

#### **CSYE 6220: Enterprise Software Design**

Designed to build on previous experience in concepts of object-oriented design courses with equal focus in the three areas of architecture, design, and implementation. Instruction and hands-on exercises cover both server-side and client-side web programming. Offers students an opportunity to build a conceptual understanding and to gain practical experience with popular frameworks (Spring MVC, Hibernate, and Dojo or jQuery) that increase productivity, empower developers, and greatly simplify web development. The goal is to be able to build the server side and client side of substantial web-based, client-server, database-intensive, multitier applications.

#### **Section Available:**

Section 01: Wednesday & Friday 11:45 AM – 1:25 PM  
**CRN 11080**

#### **CSYE 7280: User Experience Design and Testing**

Introduces user experience concepts while working on Web design projects. Offers students an opportunity to build the necessary skill sets to make better decisions when designing contemporary websites that cater to customer needs. Students practice interview techniques to understand user requirements while keeping user experience central to the effort. Uses wireframes and user scenarios to drive the creative design process. Various case studies are introduced and discussed in team settings to emphasize user perspectives. Uses



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quality assurance and usability testing to drive validation and user-acceptance testing and approvals.

### **Section Available:**

**Section 01:** Monday 6:10 – 9:40 PM  
**CRN 12568**

### **DAMG 6210: Data Management and Database Design**

For the student who has no background in databases and wants to know what is involved in the design and programming of databases and wants to maximize technical skills. A good foundation for those who want to focus on data management, business intelligence, data science, etc. or who want to make these areas their career objectives.

### **Sections Available:**

**Section 01:** Wednesday & Friday 11:45 AM – 1:25 PM  
**CRN 14300**

**Section 05:** Thursday 6:10 – 9:40 PM  
**CRN 14304**

**Section 08:** Monday 6:10 – 9:40 PM  
**CRN 14307**

### **INFO 6105: Data Science Engineering Methods and Tools**

This class is for students who are planning to build a career in engineering machine learning and data science applications. The class covers the fundamentals of probability and statistics, data analysis and engineering, classification and clustering techniques, statistical inferencing, machine learning methods and tools. In a step-by-step manner, students will learn how to code in and make extensive use of the python programming language. Minimum expertise in programming is required to take this class. Though very demanding, this class is a good fit with the Application Engineering class (INFO 5100) for students with prior development experience.

### **Sections Available:**

**Section 06:** Wednesday 6:10 – 9:40 PM  
**CRN 15402**

**Section 14:** Tuesday 6:10 – 9:40 PM  
**CRN 22148**



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Section 15: Tuesday 11:45 AM – 1:25 PM & Thursday 2:50 – 4:30 PM  
**CRN 22169**

Section 16: Saturday 9:00 – 12:30 PM  
**CRN 22170**

### **INFO 6150: Web Design and User Experience Engineering**

This course gets into the front-end design of web-based user interfaces using Javascript. You learn the latest tools, techniques, and frameworks for building attractive user interfaces that engage the user in meaningful ways. You'll learn about various ways that users interact with systems, color theory, and how to implement solid client-side user interfaces. Meant for students with minimal programming background but ready to program in Javascript and html. Tools covered include Javascript, Typescript, AnglurJS, Node, and various aspects of the React framework. This is a popular course that we recommend highly due to its relevance to co-op job opportunities.

### **Section Available:**

Section 01: Saturday 1:00 – 4:30 PM  
**CRN 12566**

## **Frequently Asked Questions**

In addition to the items outlined below, please visit the [MGEN Frequently Asked Questions](#) page for further guidance.

### **How do I register?**

Please enter the CRN numbers listed above directly into your registration worksheet. In some instances, these sections may not be available to view online as they are reserved for first-term students only. In these cases, you will not be able to register for these classes using the search classes feature and MUST enter the CRNs directly. If you need help navigating to your registration worksheet on your [StudentHub](#), please click on the following link for instructions on how to register: [General Registration Instructions](#)

\*If you continue to encounter issues registering, please contact Graduate Student Services ([coe-mgen-gradadvising@northeastern.edu](mailto:coe-mgen-gradadvising@northeastern.edu))



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### **How do I get my Northeastern account?**

After you confirm your enrollment, you will be able to log in to your [Northeastern portal](#) and utilize your Student Hub. If you have not set up your Northeastern account, please visit [How do I claim my student account.](#)

### **What if I already registered for classes?**

Please drop them immediately--unless they are the courses listed above. **As a first-term student, you should only take the sections of the classes listed above\***. Please make sure you are always registered for **8 SH** if you are a full-time student.

***\*Please note, if you are enrolled in a Boston section for an approved elective offering and do not see the section number listed in this guidance, you may remain enrolled in your current section.***

### **What if I do not get the elective I wanted?**

If your first preference does not have any seats available, please sign up for your second preference (and so on). The schedule is dynamic, and students will continue to change their registrations up until the start of the term so there is still an opportunity for you to get into your first-choice elective this Fall. Please make sure you are always registered for **8 SH** if you are a full-time student.

### **Can I take an elective other than the ones listed above?**

No. These classes were chosen because they are appropriate for first-term students. Please refer to the advising guide to select the class most relevant to your interests.

### **How do I meet with Professor Bugrara?**

You will have an opportunity to meet with Professor Bugrara, the Director of the Software Engineering Systems program, at orientation before classes start.

### **Am I allowed to take three courses?**

No, Software Engineering Systems students are limited to two courses each term. Based on feedback from our students we found that three courses were too demanding, especially in terms of final exams and projects. All our courses require projects that count as much as 30% of your final grade and it is extremely hard to complete three of these a term. No exceptions to this policy will be considered until **after your first year**.



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### **Can I take courses from other departments?**

The only departments SWES students can take courses from are CSYE (Software Engineering Systems), DAMG (Data Architecture and Management), INFO (Information Systems), and TELE (Telecommunication Systems).

### **Can I transfer credit from other universities?**

No. Professor Bugrara firmly believes that all 32SH should be taken within the program at Northeastern University to uphold the integrity and continuity of the program.

### **What is the duration of the Software Engineering Systems Program?**

You are required to take eight courses for a total of 32 credits. The program takes a minimum of four semesters to complete. The typical student takes 2.5 years to complete the program, which includes an eight-month co-op.

### **Is there funding or Teaching Assistant jobs available for first year students?**

Unfortunately, there are no funding options in your first year. TA positions are filled by second year students only. You are expected to be fully dedicated to achieving academic success in the first year of the program.

### **Am I required to bring a laptop?**

Yes. You must bring a high-quality laptop with a minimum of 8 GB memory AND a strong (4 hour) battery life -- this is required.

### **Am I eligible for co-op?**

You are not eligible for co-op the first two semesters of your program, during which your focus will be strictly academic. During your last semester of study (in your second year), you must be fully on campus as a full-time student, even if you are eligible to be on co-op. According to government rules and regulations, co-op is an educational opportunity to strengthen your engineering skills--not a job pursuit.

### **How do I register for the co-op course?**

One of the requirements to becoming eligible to go on co-op is to take ENCP 6000, Career Management for Engineers. You can register for this course just as you do with your academic courses, but you need to make sure that you register for a section for SWES students. You can see this information in the course description on your registration portal under "Program Restrictions."

The **ENCP 6000: Career Management for Engineers** course is required to be eligible for co-op and to obtain access to Northeastern's co-op job platform, to search for co-op positions.



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For more details, the Graduate Co-op Eligibility and Requirements can be found [HERE](#).

### **How long can I go on co-op?**

Co-ops are a minimum of four months and a maximum of eight months.

### **Will I get a bill from registering?**

Yes, your first e-bill is generated when you register for your courses. You will receive an e-bill from the University with instructions on how to pay the e-bill. If you have questions about the mode of payment or billing, please contact the Student Financial Services Office by submitting a [Student Financial Services Inquiry Form](#). Please do not contact faculty members or the registrar's office regarding tuition payment or billing. Additional information is available on their website at <http://www.northeastern.edu/financialaid/contact/>.

For more information about beginning your program at Northeastern University, please read your acceptance letter in full.

***We look forward to welcoming you to the Graduate School of Engineering!***