Masters of Engineering (M.Eng.)

In an effort to meet increasing industry demands for highly skilled workers, the School of Engineering offers a professional Master of Engineering program with a variety of concentrations. The following concentrations are designed to benefit working professionals who seek to increase their qualifications:

- ASEM: Advanced Safety Engineering and Management
- CECM: Construction Engineering Management
- CESC: Sustainable Smart Cities
- CESE: Structural Engineering
- IEM: Information Engineering Management

UAB, a world-class, regionally accredited (SACSCOC) university, provides a wide-ranging fully online engineering program with five distinct, in-demand concentrations designed for working professionals. All courses are comprised of real-world, practical knowledge and content to help our graduates advance in their careers.

All Master of Engineering concentrations are 100% online and are comprised of real-world, practical knowledge and content to help our graduates advance in their careers. There are no campus classes or required on-campus meetings or activities. Course delivery includes asynchronous and synchronous learning modes. Students are provided 24/7 support throughout the program.

Advanced Safety Engineering and Management Concentration

Please Note: All Master of Engineering concentrations are 100% online. There are no campus classes or required on-campus meetings or activities. Course delivery includes asynchronous and synchronous learning modes.

Degree Offered	Master of Engineering
Website	http://www.uab.edu/asem
Program Email:	asem@uab.edu
Director	Donald S. Burke, III, PhD
Email	dburke3@uab.edu
Phone	205-975-3891
Address	UAB School of Engineering, HOEN 370
	1720 2nd Avenue South
	Birmingham, AL 35294-4440

The Master of Engineering with a concentration in Advanced Safety Engineering and Management is designed for students to explore injury and catastrophe prevention through a different paradigm. Through a “Prevention through Design” approach, ASEM students examine error-provocative environments as a means to design away risk. By teaching students both the language of engineering as well as safety concepts, graduates are able to bridge the divide between design engineers and occupational safety and health professionals.

Instructors

The MEng-ASEM graduate program is taught by a team of practicing safety and health professionals with Dr. Donald Burke serving as overall Graduate Program Director. Practitioner-Scholars facilitate online discussions on key topics of interest in their industry sector and provide industry-specific case studies Students participate in peer-to-peer learning activities discussing current topics of interest and real-world experiences using online discussion boards and online live class dialogues.

Admission

In addition to the Graduate School admissions requirements, admission to the UAB MEng-ASEM program requires the following:

- Undergraduate degree from a regionally-accredited insitution
- Minimum 3.0 GPA on 4.0 scale
  - Applicants not satisfying the above requirements may receive admission on a provisional basis subject to assessment and recommendation of the program director
- Experience in a safety profession
- Three letters of recommendation, at least one of which must be from a current or former direct supervisor
- Resumé/CV
- Personal essay (a brief summary of academic interests, career goals, and relevant safety experience)
- Official transcripts; refer to the UAB Graduate School website for more information about submitting transcripts
- International applicants must submit English proficiency scores in accordance with UAB Graduate School requirement. Click here for details

To apply, visit the UAB Graduate School’s website and click the ‘Apply Now’ button.

Application Deadlines	Fall: August 1; Spring: December 1; Summer: May 1
Deadline for All Application Materials to be in the Graduate School Office	Fall: August 1; Spring: December 1; Summer: May 1

Master of Engineering with a concentration in Advanced Safety Engineering and Management

Students must earn a B or better in two attempts to meet graduation requirements.

Requirements		Hours
Required Courses		
ASEM 601	ASEM Seminar [1]	0
ASEM 610	Introduction to System Safety - Prevention through Design	3
ASEM 619	Capstone Project - Part 1	3
ASEM 620	Capstone Project - Part 2	3
Electives		**24**
ASEM 611	Hazard Analysis and Waste Elimination	
ASEM 612	Engineering Risk	
ASEM 613	Human Performance and Engineering Design	
ASEM 614	Engineering Ethics and Acceptable Risk	

ASEM 615	Leading through Climates of Change	
ASEM 616	Policy Issues in Prevention through Design	
ASEM 617	Crisis Leadership	
ASEM 626	Learning-Based Response to Organizational Accidents and Incidents	
ASEM 627	Communication in Safety Systems	
ASEM 628	Electrical Systems Safety	
ASEM 630	Machinery Safety Management System	
ASEM 640	Introduction to Model-Based Safety Assessments	
ASEM 690	Special Topics in (Area) [2]	
ASEM 691	Individual Study in (Area) [2]	
Total Hours		**33**

[1] Must be taken each semester

[2] With Graduate Program Director approval; no more than 6 combined credit hours of ASEM 690 and ASEM 691 may be applied to the degree

Coordinated ASEM/MBA Program

The UAB School of Engineering and the Collat School of Business have partnered to offer a coordinated Advanced Safety Engineering Management/MBA degree.

Application Process

Students interested in pursuing the dual ASEM/MBA degree must complete a separate MBA application through the UAB Graduate School's application system. Deadline for applications will be as follows:

Required Documents

Completed application including:

- Résumé/CV
- Statement of purpose
- Three letters of recommendation from professional contacts[1]
- Transcripts from all colleges and universities attended[2]
- The TOEFL and GMAT requirement will be waived for applicants admitted to the ASEM program.

Degree Requirements

Students will have 5 years from term of entry to complete the degree. Courses older than 5 years may be used towards the degree if revalidated by the Graduate School of Management. The MBA degree consists of 12 required courses (36 semester hours). Six hours of elective credit will be waived with completion of comparable courses in the ASEM program.

Curriculum

Please refer to the MBA/ASEM section of the catalog for specifics regarding curriculum.

Completion of Degree

Students must file an application for degree with the MBA advising office during the term preceding their final semester. The MBA degree will be awarded at the completion of the ASEM and MBA degree requirements.

Sustainable Smart Cities Concentration

Please Note: All Master of Engineering concentrations are 100% online. There are no on-campus classes or required on-campus meetings or activities. Course delivery includes asynchronous and synchronous learning modes. Proper computer equipment and high-speed internet direct access are required to be successful.

Degree Offered	Master of Engineering
Website	http://www.uab.edu/engineering/smartcities
Director	Jason T. Kirby, PhD
E-mail	jtkirby@uab.edu
Phone	205-934-8479
Address	UAB School of Engineering, HOEN 340 1720 2nd Avenue South, Birmingham, AL 35294-4440

Admission Requirements

In addition to the Graduate School admission requirements, requirements for admission to the UAB MEng-SSC program includes the following:

- Bachelor's degree (any discipline) from a regionally accredited US college or university. SSC promotes a multi-discipline learning experience and therefore an engineering undergraduate degree is not required;
- An undergraduate GPA of 3.0 or higher (individuals not meeting this requirement but who have a strong professional background, references, and interview may be admitted);
- No GRE required
- International applicants must submit English proficiency scores in accordance with UAB Graduate School requirement. Click here for details;
- Original transcripts sent directly to the UAB Graduate School per their policy for degree-seeking students (detailed instructions are included during the online application process);
- Personal interview with the Director of SSC (schedule the interview prior to submitting an application);
- Three letters of recommendation from professional contacts;
- Personal essay detailing academic motivation and career aspirations in SSC; and
- Résumé/Curriculum Vitae

Application Submission Deadline for Entry Term(s)	Fall: August 1; Spring: December 1; Summer: May 1
Deadline for All Application Materials to be in the Graduate School Office	Seven business days before term begins (see UAB academic calendar - https://www.uab.edu/students/academics/academic-calendar)

Requirements		Hours
CESC 600	Principles of Sustainable Development	3
CESC 602	Introduction to Sustainable Smart Cities	3
CESC 604	Low-Carbon and Renewable Energy Systems for Smart Cities	3
CESC 606	Managing Natural Resources and Sustainable Smart Cities	3
CESC 608	Green Infrastructure and Transportation	3
CESC 610	Health and Livability	3
CESC 612	Green Buildings	3
CESC 614	Smart Cities Technologies	3

CESC 616	Big Data and Smart Cities	3
CESC 618	Research Methods and Project Planning	3
Total Hours		**30**

Structural Engineering Concentration

Please Note: All Master of Engineering concentrations are 100% online. There are no on-campus classes or required on-campus meetings or activities. Course delivery includes asynchronous and synchronous learning modes. Proper computer equipment and high-speed internet direct access are required to be successful.

The Master of Engineering with a concentration in Structural Engineering is designed to increase the technical knowledge of engineering professionals working in or desiring to work in the broad field of structural engineering.

Admission Requirements

In addition to the Graduate School admission requirements, requirements for admission to the UAB MEng-STR concentration include the following:

- An undergraduate degree in civil or mechanical engineering from an ABET accredited program. Applicants who have a Bachelor's degree and an outstanding academic record from an ABET accredited program other than civil or mechanical engineering or from an unaccredited engineering or applied science program may be admitted at program discretion;
- An undergraduate GPA of 3.0 or higher (individuals not meeting this requirement but who have a strong professional background, references, and interview may be admitted at program discretion);
- No GRE required;
- International applicants must submit English proficiency scores in accordance with UAB Graduate School requirement. Click here for details;
- Original transcripts from all colleges and universities attended since high school must be sent directly to the UAB Graduate School (detailed instructions are included during the online application process);
- Minimum undergraduate prerequisites or equivalent (students missing undergraduate prerequisites may be admitted but will be restricted from taking certain courses until the needed prerequisites are satisfied:
  - Structural Analysis of Elastic Structures
  - Reinforced Concrete Design
  - Principles of Steel Design
- Personal interview with the program director (schedule the interview prior to submitting an application);
- Three letters of recommendation from professional or academic contacts;
- Personal essay detailing academic motivation and career aspirations for earning the degree; and
- Résumé/Curriculum Vitae

To apply: Visit the UAB Graduate School website and click the 'Apply Now' button. Choose MEng - Structural Engineering in the Program Applying To section.

Application and Program Deadlines

Entry Term	Deadline
Fall	August 1
Spring	December 1
Summer	May 1
Deadline for All Application Materials to be in the Graduate School Office	Seven business days before term begins (see UAB Academic Calendar - https://www.uab.edu/students/academic-calendar)

Curriculum Requirements

Requirements	Hours
Students must complete a minimum of 30 hours with the classes listed below	**30**
All CESE courses at the 600 level	
All CECM courses with advisor-approval 600-791 (maximum of 9 hours)	
All CE courses with advisor-approval 500-791 (maximum of 12 hours)	
Total Hours	**30**

Information Engineering Management Concentration

Please Note: All Master of Engineering concentrations are 100% online. There are no campus classes or required on-campus meetings or activities. Course delivery includes asynchronous and synchronous learning modes.

Degree Offered	Master of Engineering
Website	http://www.uab.edu/iem
Program Director	Dale W. Callahan, PhD, PE
Program Manager	Scarlett Naftel, MS
Email	iem@uab.edu
Phone	(205) 934-8480

Admission Requirements

In addition to the Graduate School admission requirements, admission to the UAB MEng-IEM program includes the following:

1. An undergraduate degree from a regionally accredited university: preference is given to engineering, math, science or technical-related undergraduate degrees
2. Official transcripts from every college/university attended
3. Résumé/CV showing relevant industry work experience
4. Three letters of recommendation from professional contacts
5. An essay answering the questions listed on the IEM website Apply Now page
6. An interview with the IEM admissions committee
7. No GMAT/GRE required for admission to IEM
8. International applicants must submit English proficiency scores in accordance with UAB Graduate School requirement. Click here for details

To Apply:

Visit the UAB Graduate School website and click the 'Apply Now' button to complete an application.

Application Submission Deadline for Entry Term(s)	Fall: August 1; Spring: December 1; Summer: April 15
Deadline for All Application Materials to be in the Graduate School Office	Six weeks before term begins (see UAB academic calendar - https://www.uab.edu/students/academics/academic-calendar)

Late Applicants

Applicants who miss the Graduate School's deadline for admission may apply as “non-degree seeking” and pay an additional application fee. Late applicants are still required to submit the paperwork outlined above. The non-degree seeking deadline is typically 2-4 weeks before classes begin.

Curriculum

Requirements		Hours
IEM 601	Introduction to IEM	1
IEM 602	Leading Collaborative Teams	1
IEM 603	Communication for Technology Executives	1
IEM 610	Communication for Technology Professionals	3
IEM 611	Leading Technical Organizations	3
IEM 612	Project Leadership	3
IEM 620	Technical Entrepreneurship	3
IEM 625	Technology and Innovation	3
IEM 630	Systems Engineering	3
IEM 631	Operational Decision-Making	3
IEM 645	Financial Concepts for Entrepreneurs	3
IEM 646	Strategic Planning	3
IEM 695	IEM Design Project	3
Total Hours		**33**