

THE SCHOOL OF ARCHITECTURE AND PLANNING

ARCHITECTURE AND
ENVIRONMENTAL
DESIGN

CONSTRUCTION
MANAGEMENT



SCHOOL OF ARCHITECTURE AND PLANNING

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of Undergraduate Design and
Construction**

MISSION STATEMENT

The mission of the School of Architecture and Planning (SA+P), is to develop socially diverse, environmentally responsible, and enlightened professionals, through a process of skill acquisition, critical thinking, and value definition. In doing so, SA+P achieves this mission within a creative environment of inquiry and collegiality in the fulfillment and advancement of spatial justice, design, urban revitalization, and stability for the everyday experience.

VISION

The vision of the SA+P is to prepare fully qualified architectural, design, and planning practitioners as well as construction managers in the exploration, documentation, design planning and management of the built and natural environments. Through interdisciplinary applied research, theory building, and community based outreach, the SA+P will promote the inclusion of students that are traditionally excluded from the study of the built and natural environment. Also, the SA+P focuses on the city of Baltimore, Maryland, regional, national, and global outlook in its activities as well as embraces the study of epistemology, cultures and contributions of all peoples and times.

STATEMENT

GOALS

The goals of the School of Architecture and Planning are:

1. To build and enhance an educational environment, that will support the success among diverse student constituencies (i.e., by culture, ethnicity, race, socio-economic levels, age, and nationality) in the professional practice of architecture, landscape architecture, planning, and construction management.
2. Continue to offer high quality academic programs.
3. Become identified as a national and international leader in applied research of the built and natural environment.
4. Provide design and planning leadership in transforming the quality of Morgan's campus.
5. Manage and grow our resources to support the implementation of our strategic plan.
6. Engage with the community and participate in civic life to enhance student learning and faculty research and service.

BACHELOR OF SCIENCE IN ARCHITECTURE AND ENVIRONMENTAL DESIGN (BSAED)

Pavlina Ilieva, Program Director

The Bachelor of Science in Architecture and Environmental Design (BSAED) is a four year pre-professional degree program, that prepares students for careers in Architecture and Environmental Design professions. The program is based on the understanding that the skills required for designing the built environment comes from a broad education that draws on science, technology, humanities and the arts. The BSAED curriculum provides a balanced course of study, which includes courses in graphic skills, technology, history, and theories of the built environment as well as courses throughout the university. The core of the program are the design studio courses where students synthesize what they have learned in the exploration of hypothetical and real life design projects. After receiving the BSAED, graduates are prepared for entry level positions in architecture and environmental design fields as well as advancement to professional degree programs, which include the MSU Graduate Programs in Architecture, Landscape Architecture, and City and Regional Planning.

Mission

The BSAED program supports the mission of Morgan State University and the School of Architecture and Planning to:

1. Provide access to the architecture and environmental design professions for African American and minority students.
2. Engage in continued research on the sustainable redevelopment of Baltimore and the surrounding region. Students will become familiar with the issues and concerns affecting design within our region and within the urban context.

Program Overview

The BSAED program requires 121 credits for the completion of the Pre-professional Bachelor of Science Degree and provides coursework and preparation for students interested in pursuing professional degrees in Architecture, Landscape Architecture and City and Regional Planning at Morgan and other schools nationally. The program distributes the University

General Education (GER) across four years of study.

- The freshman year provides the introduction to communication skills and design concepts required for the beginning design student.
- The sophomore year engages students in a range of design project types and continues the build the student's knowledge of history and technology related to the built environment.
- The junior year focus' specifically on project types and issues affecting the Baltimore region both in studio courses and related lecture courses

- The senior year provides the opportunity for students to focus on any of the areas in design taught within the School of Architecture and Planning including Construction Management, Architecture, Landscape Architecture, and City and Regional Planning.

3+2

Programs

The School of Architecture and Planning offers an accelerated 5-year (BSAED plus Masters) track for the following graduate programs:

Master in Architecture

Master in City and Regional Planning

Master in Landscape Architecture

Students must apply to this competitive program at the end of the third (Junior) year in the BSAED program. The admission criteria is based on cumulative GPA, portfolio, letter of intent, and letters of recommendation. Students completing one of the 3+2 programs, will earn both a bachelor's and master's degrees. These degree programs are accredited and helps prepare students to pursue a career as a licensed architect, certified planner, or registered landscape architect.

Requirements for BSAED degree

1. Students must complete all University General Education, and Core requirements
2. Students must earn a cumulative average of 2.0 or better.
3. Students must earn a 2.0 or better in their major courses with no outstanding grades below "C" (which includes all required supporting courses).
4. Students must perform satisfactorily in the University Speech and Writing proficiency examinations
5. Students must earn the final thirty (30) credits of their degree at Morgan.
6. Students must complete 78 credits in the major and **121 credits total.**

Policies

Educational

Purpose

The purpose of the pre-professional BSAED Program is to prepare students to continue into graduate programs or entry level positions in the design and construction fields. Each student is given the opportunity to develop their technical ability, intellectual preparedness and professional outlook, and is expected to display the motivation and rigor towards their studies that will be required of them in future professional environments. Faculty will facilitate the course of study and serve as mentors to their students.

Attendance

Attending classes is a basic responsibility of every Morgan student who is enrolled in courses in the BSAED program.

Attendance in class is evidence of minimum engagement with the material of the course needed to matriculate and master the content at hand. Because the curriculum of the program is delivered to students in a variety of learning environments, it is important that each instructor have authority over the precise terms of their own attendance policy as outlined in each course syllabus. The following points are to be considered the SA+P's collective policy to be referenced in all syllabi, or unless otherwise outlined with individual faculty variation within a particular course syllabus:

The general attendance policy is to allow a student to miss the equivalent of one week of class sessions (three classes if the course meets three times/week, etc.) without directly affecting the student's grade and ability to complete the course. If additional absences are required for a personal illness/family emergency, pre-approved academic reason/religious observance, the situation should be discussed and evaluated with the faculty member and appropriate Chair on a case-by-case basis. For each absence over that allowed number, the student's letter grade can be lowered up to one full letter grade. This policy or any variation of it should be stated clearly in the syllabus of the course.

Student Engagement

The Architecture and Environmental Design professions are characterized by active civic and professional engagement. As a student in Morgan's BSAED program you will similarly be expected to participate beyond the classroom in the activities of the program, the school and the local professional community. Participation is encouraged and additionally may be required by individual faculty, included in course syllabi and calculated as part of a course grade.

Required Materials

The classroom environment represents a significant investment of time and resource on behalf of both student and faculty. Accordingly students are expected to be prepared with appropriate tools, supplies and texts as required to perform their work. A lack of appropriate tools, supplies and resources will not excuse incomplete or missing work. Difficulty obtaining the required materials should immediately be discussed with your instructor.

One Studio per Semester

Students are permitted to take a maximum of one 6-credit studio per semester.

Grade Dispute Policy

Grade disputes within the BSAED Program will follow the procedure set forth by the School of Architecture and Planning. Students will have fifteen (15) working days from the date the final course grade is posted in Websis to raise a grade dispute.

Course Repeat Policy

Courses with "D" or "F" grades may be repeated twice without written permission. To repeat a course more than twice requires written permission from the student's program director.

The Required courses are listed under the following six subgroups. Students majoring in Architecture and Environmental Design must complete the following courses:

A. General Education Requirements

Course	Description	Credits
ARCH 203 (IM)	Comm. Skills III	3
ENGL 101 (EC)	EC General Ed. Req.	3
ENGL 102 (EC)	EC General Ed. Req.	3
PHIL 109 (CT)	CT General Ed. Req.	3
MATH 113 (MQ)	Mathematical Analysis I	4
XXX (AH)	AH General Ed. Req.	3
XXX (AH)	AH General Ed. Req.	3
PHYS 101 (BP)	Intro to Physics	4
PHYS 105 (BP)	Energy, Transport, and Pollution I	3
XXX (SB)	SB General Ed. Req.	3
XXX (SB)	SB General Ed. Req.	3
XXX (HH)	HH General Ed. Req.	3
HIST 350 (CI)	African Diaspora	3
	TOTAL	41

B. University Requirements

ORAP 107	Orie. For ARCH & CMGT majors	1
PHEC XXX	Phys. Ed. Act. Elec.	1
	TOTAL	2

C. Core Requirements

ARCH 101	Conc. & Theories I	3
ARCH 103	Comm. Skills I	3
ARCH 104	Comm. Skills II	3
ARCH 201	Design I	6
ARCH 202	Design II	6
ARCH 205	Hist. Built Env. I	3
ARCH 206	Hist. Built Env. II	3
ARCH 207	Site Design	3
ARCH 208	Bldg. Materials I	3
ARCH 209	Bldg. Materials II	3
ARCH 301	Design III	6
ARCH 302	Design IV	6
ARCH XXX*	History & Theory Elec.	3
ARCH XXX*	History & Theory Elec.	3
ARCH XXX*	Technology Elec.	3
ARCH XXX*	Technology Elec.	3
ARCH XXX*	ARCH Elective	3
ARCH XXX*	ARCH Elective	3
ARCH XXX^	Fourth Year Studio	6
ARCH XXX^	Fourth Year Studio	6
	TOTAL	78

*Please contact your academic advisor for eligible core electives.

^Please contact your academic advisor for eligible fourth year studio courses.

Students planning to enroll in ARCH 402-Building Design II or consider applying for the 3+2 BSAED and Masters of Architecture (M.Arch) Program must register for ARCH 311 and ARCH 312 in the junior year of the program. MATH 113 or MATH 126 and PHYS 101 are prerequisites for ARCH 311.

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT (BSCM)

Dr. Walter Edward Dukes, Program Director

The Bachelor of Science in Construction Management (BSCM) program develops students who understand the complexity of construction projects, appreciate the values of sustainable principles and their applications, and are able to manage people in the field site. The BSCM curriculum is guided by the accreditation standards and criteria of the American Council for Construction Education.

Mission

The mission of the BSCM program is to educate students on basic construction management principles and practices, as well as their application to sustainable construction projects. With emphasis on green building technologies, materials and processes, the students will be well prepared to handle projects that require an integrated approach to environmental stewardship. The curriculum is challenging and extremely rewarding with emphasis on technical (i.e., architectural and engineering) content areas. Students will receive a solid base in the management basics required of the construction industry.

At the end of the program of study, students will have a foundation of skills and knowledge in construction science, particularly in the areas of design and construction systems, construction graphics, construction surveying, methods and materials, estimating, planning, and scheduling, construction accounting and finance, project management, and safety procedures and practices.

Program Overview

To fulfill the mission of the program, the BSCM curriculum requires 120 credit hours for completion of core and general education.

1. Students must complete all University, General Education, Supporting Course, Business & Management, and Core requirements.
2. Students must complete 120 credits total.
3. Students must earn a cumulative average of 2.0 or better.
4. Students must earn a 2.0 or better in their core and supporting courses with no outstanding grades below "C" (which includes all required Business & Management courses).

5. Students must perform satisfactorily in the University Speech and Writing Proficiency requirements.
6. Students must earn the final thirty (30) credits of their degree at Morgan.

Policies

Change of Major (Native Transfer Students)

Native Transfer Students considering changing their major to Construction Management must have a minimum 2.0 cumulative GPA. Students with less than 2.0 may be considered upon review of the student's academic plan developed with the School's Retention Coordinator.

The required courses are listed under the following six subgroups:

A. General Education Requirements

Course	Description	Credits
INSS 141 (IM)	Comp. Based Systems	3
ENGL 101 (EC)	English Comp. I	3
ENGL 102 (EC)	English Comp. II	3
PHIL 109 (CT)	Intro to Logic	3
MATH 113 (MQ)	Intro to Math Analy. I	4
XXX (AH)	AH General Ed. Req.	3
XXX (AH)	AH General Ed. Req.	3
PHYS 101(BP)	Intro to Physics	4
XXX (BP)	BP General Ed. Req.	3
XXX (SB)	SB General Ed. Req.	3
XXX (SB)	SB General Ed. Req.	3
XXX (HH)	HH General Ed. Req.	3
HIST 350 (CI)	African Diaspora.	3
	TOTAL	41

B. University Requirements

ORAP 107	Orie. For ARCH & CMGT majors	1
PHEC XXX	Phys. Ed. Act. Elec.	1
	TOTAL	2

C. Supporting Courses

SPCH 101	Fund of Speech	3
ECON 212	Prin. Of Economics I	3
CHEM 101	General Chemistry	4
ARCH 249	Design & Const. Observation	1
	TOTAL	11

D. Business and Management Requirements

MGMT 324	Organizational Behavior	3
ACCT 201	Prin. of Accounting I	3
XXX	BUAD/MGMT Elec.	3
XXX	BUAD/MGMT Elec.	3
MGMT XXX	MGMT Elective	3
MGMT XXX	MGMT Elective	3
	TOTAL	18

E. Construction Science Requirements

CEGR 107	Comp.Aided Drafting	3
ARCH 208	Building Materials	3
ARCH 311	Statics & Str. Mater.	3
ARCH 312	Bldg. Structural. Sys.	3
CMGT 201	Const. Methods I	3
CMGT 301	Site Plan & Surveying	3
CMGT 401	Sust. Construction Practices	3
CMGT 420	Environmental Controls	3
	TOTAL	24

F. Construction Requirements

CMGT 211	Const. Plan & Sched.	3
CMGT 241	Intro to Const. Mgmt.	3
CMGT 242	Const. Operations	3
CMGT 311	Const. Safety Mgmt.	3
CMGT 411	Const. Law and Cont.	3
CMGT 441	Production Tech	3
CMGT 442	Const. Cost Estimating	3
CMGT 498	Const. Mgmt. Internship	3
	TOTAL	24

ARCHITECTURE & ENVIRONMENTAL DESIGN COURSE OFFERINGS

ARCH 101 CONCEPTS AND THEORIES OF THE BUILT ENVIRONMENT I – Three hours; 3 credits.

This course will introduce students to research methodologies, critical thinking and theoretical frameworks for understanding Architecture and the Built Environment. The concepts and theories addressing formal, cultural and technological issues of the built environment will provide the foundation for advanced study in the BSAED program.

Prerequisite: None.

ARCH 102 CONCEPTS AND THEORIES OF THE BUILT ENVIRONMENT II – Three hours; 3 credits.

This course is a continuation of Concepts and Theories of the Built Environment I, ARCH 101. This course will introduce theoretical concerns that have informed the design of the built environment since the Renaissance as well as recent conceptual and technological developments and their impact on the Environmental Design disciplines. **Prerequisite:** None.

ARCH 103 COMMUNICATION SKILLS I – Five hours; 3 credits.

This course introduces the fundamental hand skills of drawing and model building, as well as computer skills required to create a portfolio. Drafting exercises will introduce the conventions of two and three-dimensional representation, freehand drawing exercises will introduce techniques for observing and recording the environment, and model building assignments will introduce students to materials and techniques for building models. The preparation of a portfolio for the

semester will introduce computer skills including concepts of file management, digital photography, scanning, and software for photo editing and desktop publishing. **Prerequisite:** None.

ARCH 104 COMMUNICATION SKILLS II – Five hours; 3 credits.

This course continues the student's development of hand drawing, model building and computer skills. Hand drawing techniques will include drawing types and scales common to the design professions. Students will be introduced to further model building and basic woodworking techniques and build scale models and full scale prototypes. Computer skills will include introduction to CAD and 3D modeling software as well as the use of digital fabrication technologies. **Prerequisite:** ARCH 103 with "C" or better.

ARCH 201 DESIGN I (FORM, SPACE & ORDER) – Eight hours studio, two hours lecture; 6 credits.

This studio course will develop the student's understanding of the fundamentals of visual perception and the natural and formal ordering systems that inform two and three-dimensional design, architectural composition, and urban design. Conceptual design projects will focus on the time/space experience of architectural form. Exercises will progress from abstract 2-D and 3-D compositions to designs that address specific programmatic and symbolic goals. **Prerequisites:** ARCH 101, and ARCH 104 with "C" or better or Approval of Program Director. [Formerly ARCH 303; and Formerly Basic Design]

ARCH 202 DESIGN II (SITE & STRUCTURE)– Eight hours studio, two hours lecture; 6 credits.

This studio course will expand on the fundamental design principals from ARCH 201 and introduce physical and environmental concerns to the design of sites, buildings, and interior spaces. Students will analyze traditional and vernacular design precedents to understand their material properties, structural concepts, as well as responses to site, environmental and cultural factors. Students will apply the lessons of structure and material, and environmentally responsive design to a series of studio projects of increasing complexity. (Formerly Design Studio I). **Prerequisite:** ARCH 201 with "C" or better.

ARCH 203 COMMUNICATION SKILLS III:– Four hours; 3 credits.

This course introduces students to Building Information Modeling (BIM), 3D Digital Modeling, digital production techniques and graphic design principles used to conceive, analyze and represent the built environment. The knowledge and skills furnish students with the abilities necessary to perform competently in the design studio and/or professional office. **Prerequisites:** ARCH 104 with "C" or better.

ARCH 204 COMMUNICATION SKILLS IV:– Four hours; 3 credits.

This advanced Computer Visualization Course will both increase the students understanding and ability to use Building Information Modelling (BIM) and 3D Digital Modeling software, and introduce tools for advanced

visualizations, animations and multimedia presentations. **Prerequisite:** ARCH 104 with “C” or better. **ARCH 205 HISTORY OF THE BUILT ENVIRONMENT I (ANTIQUITY – 18th CENTURY) – Three hours; 3 credits.** This survey course introduces students to global examples of architecture, landscape and urban design, from Antiquity through the 18th century. Students are introduced to formal patterns as well as the technological and cultural dynamics that influenced the development of the built environment in both western and non-western examples. **Prerequisite:** ENGL 101 with “C” or better.

ARCH 206 HISTORY OF THE BUILT ENVIRONMENT II (19th CENTURY – PRESENT) – Three hours; 3 credits. This survey course introduces students to global examples of architecture, landscape and urban design, from the 19th century to the Present. Students are introduced to formal patterns as well as technological and cultural dynamics that influenced the development of the built environment in both western and non-western examples. **Prerequisite:** ENGL 102 with “C” or better.

ARCH 207 SITE DESIGN – Two hours lecture, two hours lab; 3 credits. This course introduces students to the principles and practices of site planning and design that take place within a biophysical and social context to accommodate human needs and aspirations. The course focuses on spatial information and mapping; site selection and site inventory and analysis; design and implementation: conceptual development and design development. **Prerequisite:** ARCH 103 with “C” or better. (Formerly ARCH 303 (Formerly Site Planning).

ARCH 208 BUILDING MATERIALS – Two hours lecture, two hours lab; 3 credits. This course will introduce methods and materials commonly used in building construction as well as criteria for their evaluation and selection as part of the building design process. Students will become familiar with common building practices within our region as well as their environmental impact and alternative sustainable technologies. **Prerequisite:** ARCH 104 or CEGR 107 with “C” or better. (Formerly ARCH 417).

ARCH 209 BUILDING MATERIALS II – Two hours lecture, two hours lab; 3 credits. The course will focus on the critical role of materials used in the design of commercial buildings. Students will explore the unique and interdependent characteristics of building materials through exercises focused on building assembly, detailing, construction methodologies, and environmental performance. **Prerequisite:** ARCH 104 or CEGR 107 with “C” or better.

ARCH 249 DESIGN AND CONSTRUCTION OBSERVATION – One hour, 1 credit.

This one credit course will provide the opportunity for students to observe the Professional Design Office and/or Construction Site under the supervision of an industry

professional. The course will take place off-campus using real world projects to introduce students to roles of different members of a project team and the processes involved in the delivery of actual design and construction projects. **Prerequisite:** None.

ARCH 301 DESIGN III: HOUSING STUDIO

– *Eight hours studio, two hours lecture; 6 credits.* This course focuses on the design of a series of infill projects of increasing scale and complexity for urban sites in Baltimore City. Projects will include a single residence, housing and mixed-use and develop skills including site design, program organization, structural organization, code analysis, vertical circulation and façade development. **Prerequisites:** ARCH 202 with “C” or better. (Formerly ARCH 302-Intro to Urban Design).

ARCH 302 DESIGN IV: INTRO TO URBAN DESIGN

– *Eight hours studio, two hours lecture; 6 credits.* This course introduces students to urban design for sites in Baltimore City. Students will analyze the existing settlement patterns, architectural character, environmental factors, transportation, use, history, demographics and other concerns affecting the areas of study. Students will then work individually and in groups on projects including master plans, streetscapes, individual blocks and infill buildings. **Prerequisite:** ARCH 301 with “C” or better. (Formerly ARCH 302-Housing Studio).

ARCH 303 SUSTAINABILITY – Three hours; 3 credits.

This course explores “green technology” as well as the relationship between the built environment and such vital challenges as energy consumption, power supply, alternative energy sources, and building materials. Students further examine the social, ecological, and economic impact of built form on the environment by studying the relationship among natural, biological, ecological processes, urban sprawl, and environmental resources. The content of this course will be examined through the lens of the following six principles of “green design:” conserving energy, working with climate, minimizing new resources, respect for users, respect for site and holism. **Prerequisite:** Minimum Junior Classification at Morgan. (Formerly ARCH 405).

ARCH 304 URBAN DEVELOPMENT OF BALTIMORE – Three hours; 3 credits.

The course introduces students to the principles and practices of urban planning using the Baltimore/Washington metropolitan areas as a case study. Students organize and carry out on-site case studies. **Prerequisite:** Minimum Junior Classification at Morgan.

ARCH 305 DESIGN AND HUMAN BEHAVIOR – Three hours; 3 credits.

This course covers the cultural, social, and psychological factors of human behavior that must be taken into consideration when designing the environment. This includes considering the characteristics, causes, and consequences of acts, meanings, participation, relationships, and settings; plus the forms they assume and variations

they display. Theories and methods of environmental assessment and design are studied based on an understanding of mutually supportive relationships between people and their physical environments. **Prerequisites:** Minimum Junior Classification at Morgan. (Formerly ARCH 421).

ARCH 311 STATICS AND STRENGTH OF MATERIALS – *Three hours; 3 credits.* This course is devoted to the development and application of the principles of static mechanics and strength of materials as they relate to the analysis of building structures. **Prerequisites:** PHYS 101 & either MATH 113 or MATH 126 (Formerly ARCH 305).

ARCH 312 BUILDING STRUCTURAL SYSTEMS – *Three hours; 3 credits.* This course will familiarize students with common building structural systems including masonry, wood, steel, and concrete. Students will gain a conceptual understanding of how these systems perform as well as a familiarity with the organization, components, sizes, connections, methods of assembly, resistance to horizontal forces, cost and other factors affecting their application in buildings. **Prerequisite:** ARCH 311 with “C” or better. (Formerly ARCH 411).

ARCH 321 GRADING & DRAINAGE – *Three hours; 3 credits.* This course is the study of the shaping of the earth’s surface in an ecological, technical and aesthetic manner with an emphasis on the technical ability to transform design ideas into physical reality. Specific topics include contours and slope analysis, the grading process, earthwork, storm runoff analysis, and grading as design. **Prerequisite:** ARCH 207 with “C” or better. (Formerly ARCH 422).

ARCH 322 TECHNOLOGY RESOURCES FOR PLANNERS – *Three hours; 3 credits.* This course is an introduction to Geographic Information Systems and its specific application to the built environment profession. Topics include: spatial modeling, visual analysis, resource management, site design, master planning, and public advocacy. **Prerequisite:** ARCH 104 with “C” or better. (Formerly ARCH 436).

ARCH 331 ENVIRONMENTAL JUSTICE – *Three hours; 3 credits.* This course incorporates complex issues of environmental justice and social equity as important components to discussing community planning and public policy actions. This includes community-related environmental projects, e.g., public transportation services, housing supply, community development, public infrastructure, public education and health. The focus is to determine not only the social needs but also revenue and policy constraints so that environmental decisions become better informed, more accurate and less harmful. **Prerequisite:** Minimum Junior Classification at Morgan.

ARCH 401 BUILDING DESIGN I – *Eight hours studio,*

two hours lecture; 6 credits. This topical design studio will combine research activities with focused design project. Students will perform directed research and develop a level of expertise in a particular building type. This will be applied to design project(s). The design results will both reflect the students accumulated skills in addressing program, site, structure and building design and the depth of knowledge acquired from the research portion of the studio. **Prerequisites:** ARCH 302 with “C” or better. (Formerly Design Studio IV).

ARCH 402 BUILDING DESIGN II – *Eight hours studio,*
two hours lecture; 6 credits. The premise of integrated design is that bringing the project team together early and often in the design process is essential to the production of high performance buildings. This course will both look at contemporary practices in high performance buildings and simulate the integrated design process within the studio including bringing mechanical, structural and other design consultants as students develop projects to a Design Development level of completion. **Prerequisites:** ARCH 401 and ARCH 311 with “C” or better. (Formerly Design Studio V).

ARCH 403 URBAN DESIGN I – *Eight hours studio, two hours lecture; 6 credits.* This studio is focused on community design with the physical environment viewed as a catalyst for community enhancement and revitalization. Typical issues of concern include, community identity, the role of open space in urban neighborhoods, and sustainability, safety and livability. **Prerequisite:** ARCH 302 with “C” or better.

ARCH 404 URBAN DESIGN II – *Eight hours studio, two hours lecture; 6 credits.* This studio will focus on a mixed-use redevelopment project as a tool for physical, social and economic revitalization of urban areas. Issues of land use, transportation, preservation, sustainability and urban form will inform the planning and design process. **Prerequisite:** ARCH 302 with “C” or better.

ARCH 406 HISTORY OF THE BUILT ENVIRONMENT III – *Three hours; 3 credits.* This course focuses on the relation between architecture and architectural theory through the study of writings and built works by significant 19th and 20th century architects. Students will perform research and situate examples of contemporary practices within the context of theoretical traditions. **Prerequisite:** ARCH 206 with “C” or better.

ARCH 407 HISTORIC RESOURCE DOCUMENTATION – *Three hours; 3 credits.* This course is designed to train students in the Historic American Building Survey (HABS) techniques through supervised reading, fieldwork, and writing. Course work introduces students to the skills needed to conduct research, photograph and document both in written and graphic form. **Prerequisite:** None.

ARCH 408 BUILDING CONSERVATION – *Three hours; 3 credits.* This course examines common historical and contemporary building materials with the intention of understanding their basic properties, the ways they have been transformed into building elements, assemblies and systems, typical causes for their changes over time, and protocols for their conservation. **Prerequisite:** None.

ARCH 409 HISTORIC PRESERVATION: PERIODS, STYLES, & MOVEMENTS – *Three hours, 3 credits.* This course will examine American architecture from the late 18th, 19th and 20th century, not as an insular phenomenon, but as part of a transnational history of architectural periods, styles and movements. While the course focuses on buildings and architectural projects constructed within the national boundaries of the United States of America between 1776 and the present. **Prerequisite:** None.

ARCH 410 DESIGN BUILD STUDIO – *Eight hours studio, two hours lecture; 6 credits.* This studio will focus on the design and construction of a building or structure. In addition to design process, students will explore the implications of cost, material selection, construction processes and real life performance criteria that influence the design of buildings. Student will gain hands-on experience and training in construction skills through on-site participation in the project. **Prerequisite:** ARCH 202 with “C” or better or Approval of Program Director.

ARCH 412 ADVANCED WALL SYSTEM DESIGN – *Three hours; 3 credits.* This course will expand upon the structural, mechanical, and design lessons students have accumulated to instruct students in intricate and innovative wall system construction. Information about recent construction industry innovations will complement extensive technical instruction about new uses of wall systems in environmental design. Throughout this course, techniques for designing and documenting wall section details will be introduced systematically, affording each student a repertoire of technical vocabulary and graphic skills suitable both for practical work and for design assembly explorations. **Prerequisites:** ARCH 208 and 209 with “C” or better.

ARCH 415 HISTORIC PRESERVATION – *Three hours; 3 credits.* This course introduces the student to the field of historic preservation, examining the history and theory of preservation in architecture and the built environment. Course work includes historical aspects, the issue of sustainability, state and local guidelines, preservation standards, career opportunities, and professional practices. **Prerequisites:** ARCH 206 with “C” or better.

ARCH 416 OFFICE PRACTICE AND MANAGEMENT – *Three hours; 3 credits.* This course introduces students to IDP, NCARB and the ARE exams as preparation for professional careers. Students are also introduced to the office work environment, business models, AIA Contract

Documents and the roles and responsibilities of the members of the building process. **Prerequisite:** Minimum Junior Classification at Morgan. (Formerly ARCH 308).

ARCH 418 HISTORY/THEORY SEMINAR – *Three hours; 3 credits.* This seminar will introduce students to advanced topics relating to the history and theory of architecture and environmental design. The topics will reflect individual faculty research interest and expertise. **Prerequisite:** ARCH 206 with “C” or better.

ARCH 422 PRODUCTION TECHNIQUES FOR LANDSCAPE ARCHITECTS – *Three hours; 3 credits.* The course introduces the principles, techniques, and activities necessary to develop a set of construction documents as related to the Landscape Architecture profession, including schedules and specifications. **Prerequisite:** ARCH 207 with “C” or better.

ARCH 423 ADVANCED BUILDING STRUCTURES – *Three hours; 3 credits.* This course will look at advanced and non-traditional building structural systems and material applications. Sources will include structures found in nature, traditional and non-western structures and contemporary explorations in structural design. The course involves a lab in which students will use the schools model shop to develop and test designs of structural materials and assemblies. **Prerequisite:** ARCH 312 with “C” or better.

ARCH 424 INTERIOR MATERIALS AND FINISHES – *Three hours; 3 credits.* The purpose of this course is to introduce students to materials, finishes and technologies used in interior design. Students will become familiar with material details, product specification and cost, durability and other factors affecting the design of interior spaces. **Prerequisite:** ARCH 202 with “C” or better. (Formerly ARCH 313-Intro to Interior Design).

ARCH 425 SUSTAINABLE PRESERVATION STUDIO – *six hours; 6 credits.* This course explores opportunities to learn adaptive reuse, build on the past while creating transformative and imaginative places; process begins with understanding significance, character-defining features and integrity; to design development approaches that respect and integrate new programs/uses, elements and systems. **Prerequisite:** ARCH 302 with “C” or better or ARCH 202 & Permission of Instructor.

ARCH 426 PLANT MATERIALS – *Three hours; 3 credits.* This course is an introduction to plant materials in terms of their botanical identification, design characteristics and ecological requirements. Trees, shrubs, vines, and ground covers commonly used in urban planting design are emphasized. **Prerequisite:** None.

ARCH 428 TECHNOLOGY SEMINAR I – *Three hours; 3 credits.* This seminar will introduce students to advanced topics in building technology. The topics will reflect

individual faculty research interest and expertise. **Prerequisite:** ARCH 208 and 209 with “C” or better.

ARCH 429 TECHNOLOGY SEMINAR II – *Three hours; 3 credits.* This seminar will introduce students to advanced topics in building technology. The topics will reflect individual faculty research interest and expertise. **Prerequisite:** ARCH 208 and 209 with “C” or better.

ARCH 431 PUBLIC SPACE PLANNING – *Three hours; 3 credits.* This course investigates the physical, cultural and regulatory factors contributing to the design of public spaces. Case studies and field research will look at context and environmental factors including transportation networks, green spaces, land use patterns, and infrastructure, and performance standards including safety, government codes and regulations, accessibility guidelines etc. (Formerly Public Facilities Planning). **Prerequisite:** ARCH 206 with “C” or better. .

ARCH 432 INTRODUCTION TO REAL ESTATE PLANNING I – *Three hours; 3 credits.* This course explores the theory, principles and practices of the various facets of the real estate industry, that impact on land use policy and thought, and the shaping of communities. Students learn the products and programs in use today to finance community development, as well as they explore innovative construction technologies that influence decision-making in real estate development and land use planning. **Prerequisite:** Minimum Junior Classification at Morgan.

ARCH 435 INTRODUCTION TO REAL ESTATE PLANNING II – *Three hours; 3 credits.* This course expands upon the theories, principles and practices of the real estate industry presented in Course I and incorporates a project management approach to address a land-use-planning situation. Students will work in teams to propose strategies, and design components that comprise a community development project plan. Students will structure the specifics of the project being designed and identify and propose the task to be undertaken for project implementation. **Prerequisite:** Minimum Junior Classification at Morgan.

ARCH 445 SEMINAR IN BUILT ENVIRONMENT STUDY – *Three hours; 3 credits.* This seminar will introduce students to advanced topics relating to the history and theory of architecture and environmental design. The topics will reflect individual faculty research interest and expertise. **Prerequisite:** ARCH 206 with “C” or better.

ARCH 470 INTERIOR ARCHITECTURE STUDIO – *Eight hours studio, two hours lecture; 6 credits.* This studio course emphasizes the design of the entire interior environment encompassing all parts of the interior volume, and acknowledging the continuum between architecture and interiors. Both conceptual and practical issues are explored relative to programming, space planning, circulation, volume,

furnishings, color, texture, lighting, and code requirements in the design of interior space. **Prerequisite:** ARCH 302 with “C” or better.

ARCH 498 ENVIRONMENTAL DESIGN INTERNSHIP I – *Nine hours; 3 credits.* This course provides the opportunity for the student to obtain valuable supervised work experience at a professional firm, government agency, non-profit group or organization that is involved with planning, design or management practices that are related to the academic objectives within the BSAED curriculum. **Prerequisite:** Approval of Program Director. (Formerly ARCH 430).

ARCH 499 INDEPENDENT STUDY – *Three hours; 3 credits.* Individual student study performed under faculty supervision. The level of effort and subject matter must be equivalent to a 400 level Department course. **Prerequisite:** Approval of Program Director.

CONSTRUCTION MANAGEMENT COURSE OFFERINGS

CMGT 201 CONSTRUCTION METHODS I– *Three hours; 3 credits.* The study, analysis, and application of project planning, work methods, materials, equipment, and power tool and equipment safety methods employed on residential construction projects. **Prerequisite:** None

CMGT 211 CONSTRUCTION PLANNING AND SCHEDULING – *Three hours; 3 credits.* The course deals with the planning and design of construction processes. Course topics include production systems, behavior of construction systems and workers, the relationships between systems in the construction process, and scheduling queuing systems. Students will be introduced to building information modeling technology for planning and scheduling. **Prerequisite:** None

CMGT 241 INTRODUCTION TO CONSTRUCTION MANAGEMENT – *Three hours; 3 credits.* This course is an introduction to basic principles and skills required to organize and manage large construction projects, including the issues of liability and coordination responsibilities of the owner, project manager, general contractor, sub-contractor, and design professionals. Students will be introduced to building information modeling technology for construction managers. **Prerequisites:** None. (Formerly ARCH 451, ARCH 341, ARCH 241).

CMGT 242 CONSTRUCTION OPERATIONS – *Three hours; 3 credits.* This course introduces the basic principles and elements required to organize, operate and manage small-, medium-, and large-sized construction companies. It focuses on the operation from the executive perspective: contractual responsibilities and the roles of contractor owner, and design

and engineering professionals. It also explores the issues of labor relations and dispute resolution. **Prerequisite:** None. (Formerly ARCH 342).

CMGT 301 SITE PLANNING AND SURVEYING – *One hour lecture, four hours laboratory; 3 credits.* This course introduces students to the principles and practices of site planning and surveying. The planning section focuses on spatial information and mapping, topographic surveys, site selection and programming, site inventory and analysis; while the surveying section covers coordinates, directions, distances and elevations. **Prerequisites:** None.

CMGT 311 CONSTRUCTION SAFETY MANAGEMENT – *Three hours; 3 credits.* This course will cover construction safety with Occupational Safety and Health Administration (OSHA) emphasis, general safety and health provisions, records, and safety management programs. **Prerequisite:** None

CMGT 401 SUSTAINABLE CONSTRUCTION PRACTICES I – *Three hours; 3 credits.* This course will cover components of the LEED rating system, including benefits of green building, return on investment (ROI), green building tools and resources, and case studies with lessons learned. Students will be introduced to building information modeling technology for sustainable construction. **Prerequisite:** None

CMGT 411 CONSTRUCTION LAW AND CONTRACTS – *Three hours; 3 credits.* The course presents the legal aspects of construction contracts and documents and the application of Maryland and federal case law to construction and development claims and litigation. **Prerequisite:** None.

CMGT 420 ENVIRONMENTAL CONTROLS – *Three hours; 3 credits.* This course covers basic principles of plumbing, HVAC systems, electric, illumination, and

acoustics in environmental design and construction. It expands the student's understanding of the nature and characteristics of various environmental systems as well as to develop their ability to make choices between systems that best resolve the problems associated with cost, social accommodation, operating efficiency, durability, scheduling, safety, and aesthetics. Students will be introduced to building information modeling technology for environmental controls. **Prerequisite:** None. (Formerly ARCH 420).

CMGT 441 PRODUCTION TECHNIQUES – *Three hours; 3 credits.* This course introduces the steps and activities necessary to develop a set of construction documents, including schedules and specifications as related to detailed plans for structures and site development. Students will be introduced to building information modeling technology for production. **Prerequisite:** None. (Formerly ARCH 441).

CMGT 442 CONSTRUCTION COST ESTIMATING – *Three hours; 3 credits.* This course introduces the role of cost estimating in the various phases of the construction process. It explores the cost data and review procedures, quantity take-off rules and procedures, and construction cost estimating. Students will be introduced to building information modeling technology for cost estimating. **Prerequisite:** None (Formerly ARCH 442).

CMGT 498 CONSTRUCTION MANAGEMENT INTERNSHIP – *Nine hours; 3 credits.* Supervised professional experiences in firms or companies involved in the construction industry. A presentation by the student will be held to summarize his/her internship experience. **Prerequisite:** At least 9 credits of core construction management courses. Must be approved by Department.

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SCHOOL OF ARCHITECTURE AND PLANNING
BACHELOR OF SCIENCE IN ARCHITECTURE & ENVIRONMENTAL DESIGN
SUGGESTED CURRICULUM SEQUENCE**

FRESHMAN YEAR (FIRST SEMESTER)

ORAP 107	ORIEN. FOR ARCH & CMGT MAJ.	1
ARCH 101	CONC & THEO OF BUILT ENV I	3
ARCH 103	COMMUNICATION SKILLS I	3
ENGL 101(EC)	ENGLISH COMPOSITION I	3
XXX (SB)	SB GEN. EDUCATION REQ.	3
XXX (HH)	HH GEN. EDUCATION REQ.	3
		16

FRESHMAN YEAR (SECOND SEMESTER)

ARCH 104	COMMUNICATION SKILLS II	3
ARCH 205	HIST OF THE BUILT ENV I	3
ARCH 207	SITE DESIGN	3
ENGL 102 (EC)	ENGLISH COMPOSITION II	3
MATH 113 (MQ)	MATHEMATICAL ANALYSIS I	4
		16

SOPHOMORE YEAR (FIRST SEMESTER)

ARCH 201	DESIGN I	6
ARCH 206	HIST OF THE BUILT ENV II	3
ARCH 208	BLDG MATERIALS I	3
XXX (SB)	SB GEN. EDUCATION REQ.	3
PHEC XXX	PHYS. ED. ACTIVITY ELECTIVE	1
		16

SOPHOMORE YEAR (SECOND SEMESTER)

ARCH 202	DESIGN II	6
ARCH 203 (IM)	COMMUNICATION SKILLS III	3
ARCH 209	BLDG MATERIALS II	3
PHYS 101 (BP)	INTRO TO PHYSICS I	4
		16

JUNIOR YEAR (FIRST SEMESTER)

ARCH 301	DESIGN III-HOUSING	6
ARCH XXX	HISTORY/THEORY ELECTIVE	3
ARCH XXX**	TECHNOLOGY ELECTIVE	3
PHYS 105 (BP)	ENERGY, TRANS, & POLLUTION I	3
		15

JUNIOR YEAR (SECOND SEMESTER)

ARCH 302	DESIGN IV- URBAN DESIGN	6
ARCH XXX	HISTORY/THEORY ELECTIVE	3
ARCH XXX**	TECHNOLOGY ELECTIVE	3
XXX (AH)	AH GEN. EDUCATION REQ.	3
		15

SENIOR YEAR (FIRST SEMESTER)

ARCH XXX*	FOURTH YEAR STUDIO	6
ARCH XXX	ARCH ELECTIVE	3
HIST 350 (CI)	INTRO TO AFRICAN DIASPORA	3
PHIL 109 (CT)	INTRO TO LOGIC	3
		15

SENIOR YEAR (SECOND SEMESTER)

ARCH XXX*	FOURTH YEAR STUDIO	6
ARCH XXX	ARCH ELECTIVE	3
XXX (AH)	AH GEN. EDUCATION REQ.	3
		12

TOTAL CREDIT HOURS 121

*ARCH XXX FOURTH YEAR STUDIO requirement may be fulfilled by the following courses.

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|---|--|
| ARCH 401 – BUILDING DESIGN I | ARCH 402 – BUILDING DESIGN II |
| ARCH 403 - URBAN DESIGN I | ARCH 404 - URBAN DESIGN II |
| ARCH 410 - DESIGN-BUILD STUDIO | ARCH 425 – SUSTAINABLE PRESERVATION STUDIO |
| ARCH 470 - INTERIOR ARCHITECTURE STUDIO | |

** Students planning to enroll in ARCH 402-Building Design II or considering applying for the 3+2 BSAED and M.Arch Program must register for ARCH 211 and ARCH 212 in the first semester of the 3rd year. MATH 113, PHYS 101, and PHYS 102 are required for ARCH 401.

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FRESHMAN YEAR (FIRST SEMESTER)

ORAP 107	ORIEN. FOR ARCH & CMGT MAJ.	
ENGL 101(EC)	ENGLISH COMPOSITION I	
XXX (SB)	SB GEN. EDUCATION REQ.	
MATH 113(MQ)	MATHEMATICAL ANALYSIS I	
CEGR 107	COMPUTER AIDED DRAFTING	

14

FRESHMAN YEAR (SECOND SEMESTER)

1 ENGL 102 (EC)	ENGLISH COMPOSITION II	3
3 XXX (SB)	SB GEN. EDUCATION REQ..	3
3 PHYS 101(BP)	INTRO TO PHYSICS	4
4 SPCH 101	SPEECH COMMUNICATIONS	3
3 PHEC XXX	PHYS. ED. ACTIVITY ELEC	1

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SOPHOMORE YEAR (FIRST SEMESTER)

CMGT 241	INTRO TO CONSTRUCTION MNG'T	3
CHEM 101	GENERAL CHEMISTRY	3
CHEM 101L	GENERAL CHEMISTRY LAB	1
INSS 141(IM)	INTRO COMP. BASED-SYSTEM	3
XXX (AH)	AH GEN. EDUCATION REQ.	3
XXX (HH)	HH GEN. EDUCATION REQ.	3

16

SOPHOMORE YEAR (SECOND SEMESTER)

3 ARCH 208	BUILDING MATERIALS	3
3 CMGT 201	CONSTRUCTION METHODS I	3
1 XXX (BP)*	BP GEN. EDUCATION REQ..	3
3 XXX (AH)	AH GEN. EDUCATION REQ.	3
3 ACCT 201	PRIN. OF ACCOUNTING I	3

15

SUMMER

CMGT 498	CONST.. MGMT INTERNSHIP	3
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JUNIOR YEAR (FIRST SEMESTER)

ARCH 311	STATICS & STRENGTH OF MAT.	3
CMGT 442	CONST. COST ESTIMATING	3
CMGT 301	SITE PLANNING & SURVEYING	3
ECON 212	PRIN. OF ECONOMICS II	3
MGMT 324	ORGANIZATIONAL BEHAVIOR	3

15

JUNIOR YEAR (SECOND SEMESTER)

3 ARCH 312	BLDG STRUCT. SYSTEMS	3
3 CMGT 242	CONST. OPERATIONS	3
3 CMGT 441	PRODUCTION TECHNIQUES	3
3 CMGT 211	CONST. PLAN. & SCHED.	3
3 MGMT XXX	MANAGEMENT ELECTIVE	3

15

SENIOR YEAR (FIRST SEMESTER)

CMGT 420	ENVIRONMENTAL CONTROLS	3
CMGT 401	SUSTAINABLE CONST. PRACTICES I	3
XXX	BUAD or MGMT ELECTIVE	3
XXX	BUAD or MGMT ELECTIVE	3
HIST 350 (CI)	INTRO TO AFRICAN DIASPORA	3

15

SENIOR YEAR (SECOND SEMESTER)

3 CMGT 311	CONST. SAFETY MGMT	3
3 CMGT 411	CONST. LAW & CONTRACTS	3
3 PHIL 109 (CT)	INTRO TO LOGIC	3
3 MGMT XXX	MANAGEMENT ELECTIVE	3
3 ARCH 249	DESIGN & CONST. OBSERV.	1

13

TOTAL CREDIT HOURS

120

*Students can take any of the following courses to fulfill a PHYS. SCIENCE ELECTIVE: PHYS 105, EASC 201, EASC 202, EASC 203, EASC 301, TRSS 301, GEOG 101, GEOG 104, GEOG 105