Architectural Studies

The most basic human response to the earth’s environment has been the development of methods which increase the probability of survival. The most obvious of these was the creation of shelters by which the impact of climate and the changing seasons could be controlled. From this simple reaction, architecture has evolved which reflects and promotes the cultural, economic and philosophical trends of our societies. The four-year curriculum in architectural studies offers the beginning level of education for those who intend to pursue a career in this profession or a related field. A structured sequencing of courses is included which provides for a gradual interactive development of required knowledge and skills. This pre-professional preparation is combined with the University Core Curriculum courses to provide a comprehensive scholarly foundation for advancement.

The Bachelor of Science in Architectural Studies (BSAS) is a four-year pre-professional program that prepares graduates for careers in architecture and related fields or to enter masters level programs. In addition, the School of Architecture offers a 1.5 year Master of Architecture (MArch) degree that is accredited by the National Architectural Accrediting Board (NAAB). The BSAS degree combined with the MArch degree is designed to fulfill accreditation requirements. In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards. Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree. The NAAB grants candidacy status to programs that have developed viable plans for achieving initial accreditation. Candidacy status indicates that a program should be accredited within six years of achieving candidacy, if its plan is properly implemented. Graduates with a BSAS degree are prepared for entry-level positions in architecture and related fields at a limited level. Ultimately, most graduates will continue their education in a professional-level Master of Architecture program in order to satisfy education requirements for licensure.

Students also are eligible for participation in the Architectural Experience Program (AXP) sponsored by the National Council of Architectural Registration Boards. A wide variety of employment options exist. Some areas include design, planning, preservation, government regulation, construction, building products and facilities management.

The amount of material to be covered, the fast pace of assignments, and the pressure of critical reviews combine to produce a highly charged and energetic atmosphere. Successful students must be able to handle multiple projects simultaneously and demonstrate an ability to manage their time wisely.

To support students in their educational endeavors, sophomores, juniors and seniors are provided dedicated studio space. Program facilities include a resource library, model/furniture shop, a dedicated computer graphics laboratory, a digital fabrication lab, and virtual reality facilities. The computer graphics laboratory will provide access to input/output devices. Each student is required to purchase or lease a laptop computer and software that meets program specifications prior to the start of the second year for those on the four-year plan or prior to the start of the first year for those on the three-year plan. Laptop and software specifications will be supplied during the registration process.
While facilities are provided for use, cost for supplies, individual equipment and field trips necessary to the successful completion of the program are borne by the student. Due to variation in individual materials used, it is impossible to predict the exact costs for each student. A reasonable estimate of additional expenses is in the range of $1,000 to $2,000 per academic year.

The Architectural Studies program maintains the right to retain student work for exhibition or for records and accreditation purposes. Students are advised to assemble photographic and digital files of their work for their portfolios.

Students are encouraged to participate in professional related student organizations, which include the American Institute of Architecture Students, Construction Specifications Institute, and Illuminating Engineering Society. Additional activities designed to enhance the overall quality of education include the University Honors Program, travel study programs, workshops and guest lectures.

Prospective students attending another college or university prior to transferring to Southern Illinois University Carbondale should concentrate on completing courses articulated or approved as substitutes for Southern Illinois University Carbondale’s University Core Curriculum requirements. Prior to taking courses that appear to equate to the professional sequence, the applicant should consult with the school director or designated representative.

Students must pass all Architectural Studies prefix courses with a minimum grade of C- in order to satisfy prerequisites and to graduate. If a student receives a grade of F three times in the same course, the course cannot be taken again. Students cannot repeat Architectural Studies Prefix courses in which they received a grade of C or better.

**Construction Management and Operations Minor and Specialization**

A minor in Construction Management consists of a minimum of 15 semester hours, including ARC 210, ARC 310, ARC 410, ARC 411, and ARC 413. ARC 210 and ARC 310 are prerequisites that must be satisfied before taking the upper division 400-level courses. An advisor within the School of Architecture must be consulted before selecting this field as a minor.

The specialization in Construction Management and Operations in the Bachelor of Science in Architectural Studies prepares students for careers in commercial and industrial construction management. The program builds on the School of Architecture’s foundational disciplines in building design and construction. Courses required for specialization include: ARC 210, ARC 310, ARC 410, ARC 411,ARC 412, ARC 413 and TRM 332, TRM 362, TRM 364, TRM 383, and TRM 416. See an advisor.

Students must earn a minimum grade of C- in each course taken to satisfy the requirements of the minor, and students must earn a minimum grade point average of 2.0 for those minor courses.

**Bachelor of Science Degree in Architectural Studies**

<table>
<thead>
<tr>
<th>Degree Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>University Core Curriculum - As per University requirements for baccalaureate degrees, but must include HIST 101A,B.</td>
<td>39</td>
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<tr>
<td>Requirements for Major in Architectural Studies</td>
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<tr>
<td>MATH 111</td>
<td>(3)</td>
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<tr>
<td>PHYS 203A</td>
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<tr>
<td>PHYS 253A</td>
<td>3</td>
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<td>Credit Hours</td>
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<tr>
<td>HORT 328A, HORT 328B</td>
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<td>ARC 121, ARC 122, ARC 231, ARC 232, ARC 242, ARC 251, ARC 252, ARC 271, ARC 272, ARC 273, ARC 274, ARC 275, ARC 276, ARC 277, ARC 278, ARC 279, ARC 281, ARC 282, ARC 283, ARC 284, ARC 285, ARC 286, ARC 287, ARC 288, ARC 289, ARC 291, ARC 292, ARC 293, ARC 294, ARC 295, ARC 296, ARC 297, ARC 298, ARC 299, ARC 301, ARC 302, ARC 303, ARC 304, ARC 305, ARC 306, ARC 307, ARC 308, ARC 309, ARC 311, ARC 312, ARC 313, ARC 314, ARC 315, ARC 316, ARC 317, ARC 318, ARC 319, ARC 321, ARC 322, ARC 323, ARC 324, ARC 325, ARC 326, ARC 327, ARC 328, ARC 329, ARC 331, ARC 332, ARC 333, ARC 334, ARC 335, ARC 336, ARC 337, ARC 338, ARC 339, ARC 341, ARC 342, ARC 343, ARC 344, ARC 345, ARC 346, ARC 347, ARC 348, ARC 349, ARC 351, ARC 352, ARC 353, ARC 354, ARC 355, ARC 356, ARC 357, ARC 358, ARC 359, ARC 361, ARC 362, ARC 363, ARC 364, ARC 365, ARC 366, ARC 367, ARC 368, ARC 369, ARC 371, ARC 372, ARC 373, ARC 374, ARC 375, ARC 376, ARC 377, ARC 378, ARC 379, ARC 381, ARC 382, ARC 383, ARC 384, ARC 385, ARC 386, ARC 387, ARC 388, ARC 389, ARC 391, ARC 392, ARC 393, ARC 394, ARC 395, ARC 396, ARC 397, ARC 398, ARC 399, ARC 401, ARC 402, ARC 403, ARC 404, ARC 405, ARC 406, ARC 407, ARC 408, ARC 409, ARC 411, ARC 412, ARC 413, ARC 414, ARC 415, ARC 416, ARC 417, ARC 418, ARC 419, ARC 421, ARC 422, ARC 423, ARC 424, ARC 425, ARC 426, ARC 427, ARC 428, ARC 429, ARC 431, ARC 432, ARC 433, ARC 434, ARC 435, ARC 436, ARC 437, ARC 438, ARC 439, ARC 441, ARC 442, ARC 443, ARC 444, ARC 445, ARC 446, ARC 447, ARC 448, ARC 449, ARC 451, ARC 452, ARC 453, ARC 454, ARC 455, ARC 456, ARC 457, ARC 458, ARC 459, ARC 461, ARC 462, ARC 463, ARC 464, ARC 465, ARC 466, ARC 467, ARC 468, ARC 469, ARC 471, ARC 472, ARC 473, ARC 474, ARC 475, ARC 476, ARC 477, ARC 478, ARC 479, ARC 481, ARC 482</td>
<td>+ 72</td>
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1 ARC 231, ARC 232, PHYS 203A and MATH 111 will apply toward nine hours of University Core Curriculum requirements making a total of 39 in that area.

2 MATH 108 and MATH 109 substitute for MATH 111. Hours will be (3) + 3. Total hours for the degree remains 126 when the extra hours are counted as an architecture elective.

**Architectural Studies Courses**

**ARC121 - Design Communication I** 121-4 Design Communication I. (Same as ID 121) Introduction to basic drawing and graphic modeling for interior design, architecture, and graphic communication. Instruction in two- and three-dimensional visualization of form and space. Topics: freehand drawing and drafting skills, orthographic projection, shade and shadow, paraline drawing, sketching, drawing and projection composition, and perspective geometry and projection. Restricted to Architectural Studies and Interior Design majors. Studio Fee: $48.

**ARC122 - Design Communication II** 122-4 Design Communication II. (Same as ID 122) Continuation of Design Communication I. This course is a continuation of sketching and black and white drawing techniques. The introduction of color and color presentation techniques with emphasis on advanced interior design and architectural graphics and presentation composition. Prerequisite: ARC 121 or ID 121. Restricted to Architectural Studies and Interior Design majors. Studio Fee: $48.

**ARC199 - Individual Study** 199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Special approval needed from the sponsor and school director.

**ARC210 - Intro to Profession** 210-3 Construction Management and Operations: Introduction to the Profession. Initial course in Construction Management and Operations (COMO) specialization series for the BSAS curriculum. Participants will develop an understanding of the wide range of opportunities for COMO, explore applicable standards of practice, industry-based code of ethics, interact with allied and associated organizations, identify certification requirements, and understand the technical challenges of COMO.

**ARC231 - Architectural History I** 231-3 Architectural History I. (Same as ID 231) (Advanced University Core Curriculum Course) The study of the influences and the development of architecture from prehistoric to the 19th Century, in particular, the study of structure, aesthetics, and the language of architecture. With 232-Architectural History II, satisfies Core Curriculum Fine Arts requirement. Restricted to major in Architectural Studies.

**ARC232 - Architectural History II** 232-3 Architectural History II. (Same as ID 232) (Advanced University Core Curriculum Course) Course covers development of modern architecture and urban planning from the 19th Century to the present, and includes American, British and Continental architecture and urban planning and influences of Eastern Architecture and design. With 231-Architectural History I, satisfies
Core Curriculum Fine Arts requirement. Prerequisite: ARC 231. Restricted to major in Architectural Studies.


**ARC251 - Design I: Concept** 251-4 Design I: Concept. (Same as ID 251) Introduction to the basic principles and elements of design by means of practical and abstract applications. Development of two- and three-dimensional solutions and presentations for conceptual design problems. Emphasis is on three-dimensional thinking and communication. Prerequisite: ARC 122. Restricted to Architectural Studies and Interior Design majors. Studio fee: $48.

**ARC252 - Design II: Order** 252-4 Design II: Order. (Same as ID 252) A series of studio exercises to develop an understanding of the use of a model for structuring design information, fundamentals of programming, research, communication skills and the design process. This course is designed to satisfy the writing portion of the Communication-Across-the-Curriculum requirements. Prerequisites: ARC 251, 271 and ENGL 101. Restricted to Architectural Studies and Interior Design majors. Studio fee: $48.

**ARC258 - Work Experience** 258-1 to 30 Work Experience Credit. Credit granted for job skills, management-worker relations, and supervisor experience for past work experience while employed in industry, business, the profession, or service occupations. Credit will be established by school director evaluation. Restricted to major.

**ARC259 - Occupational Education** 259-1 to 60 Occupational Education Credit. A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by school director evaluation. This credit may only be applied at the 100- and 200-level for the architectural studies degree unless otherwise determined by the director. Restricted to major.

**ARC271 - Computers in Architecture** 271-3 Computers in Architecture. (Same as ID 271) This course serves as an introduction to various electronic media employed within the practice of interior design and architecture. Creative and effective skills in the use of computers in interior design and architecture applications are consistently stressed. Restricted to major.

**ARC299 - Individual Study** 299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Special approval needed from the sponsor and school director.

**ARC310 - Program Management** 310-3 Construction Management and Operations: Program Management. Explore project scope and delivery methods, compensation, forms, contract types during program phase, pre-design, and pre-construction management. Identify importance of contract delivery, administration, documentation, and control across all project phases from concept through facilities management and de-construction. Project performance, stakeholder decisions, documentation tools, and applications are examined.

**ARC314I - Expressions in Architecture** 314I-3 Expressions in Architecture. (University Core Curriculum) A study of the interconnected nature of the arts, history, environmental psychology, and architecture using the built environment as the foundation for the study. Students will learn to critically examine the built environment by learning how architecture expresses human cultures, social structures, economic and political status, and spiritual beliefs.

**ARC319 - Occupational Internship** 319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits
to be individually arranged. Mandatory Pass/Fail. Restricted to major in architectural studies. Special approval needed from the instructor.

**ARC320 - Architectural Co-op Education** 320-1 to 12 Architectural Cooperative Education. The student will participate in an Architectural Studies approved cooperative education program that includes formal instruction, training and/or career related work experiences. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Program faculty evaluations, cooperative agency student performance evaluations and student reports are required. Cooperative experience may be in one or more of the following broad areas: (a) schematic design, (b) design development, (c) construction documents, (d) bidding or negotiations, (e) construction administration. Hours and credit to be individually arranged. Restricted to major in architectural studies. Special approval needed from the instructor.


**ARC342 - Build Technology III: Steel** 342-4 Building Technology III: Steel. Correlation of the design development and construction documents phases of a building project. Development of the project from design development through construction drawing phases with appropriate drawings required for each phase. Prerequisite: ARC 242. Restricted to major. Studio fee: $48.

**ARC350 - Technical Career Subjects** 350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Special approval needed from the instructor and school director.

**ARC351 - Design III: Context** 351-5 Design III: Context. Continuing study of architectural design. Projects of increased scope and complexity. Continue design process study (synthesis) and appropriate design presentation (communication). Working with impingement introduced by external agencies such as social, government, and community, as part of a larger context of planning. Study of the impact of site development, for on-site as well as external, contextual issues. Prerequisite: ARC 252. Restricted to major. Studio fee: $60.

**ARC352 - Design IV: Complexity** 352-5 Design IV: Complexity. Completion of complex design projects in varied environmental settings. Rapidly paced projects designed to provide the maximum exposure to complex architectural typologies. Analysis of facility program toward management of complex patterns. Prerequisites: ARC 351, 381. Restricted to major. Studio fee: $60.

**ARC353 - Vertical Studio** 353-4 to 6 Architectural Vertical Studio. A series of studio exercises designed to allow students to earn credit for ARC 251, 252, 351, 352, 451, 452, or ID 251 or 252. Projects are designed to fulfill the goals of the course for which this is substituted. Prerequisites and course work load vary according to the course for which this is substituted. Sophomore standing or higher required. Course may be repeated for up to 14 credit hours. Restricted to major in Architectural Studies or Interior Design. Studio fee: $12 per credit hour.


**ARC362 - Structures II: Wood & Concrete** 362-3 Structures II: Wood and Concrete. Study of wood and concrete structural framing systems: investigation of wood and concrete materials and their limitations, and the use of appropriate structural design procedures for wood and concrete structures through
selection of appropriate, common and economical shapes to satisfy building structural requirements and applicable building code requirements. Prerequisite: ARC 361. Restricted to major.

ARC381 - Envir Design I: Site Planning 381-2 Environmental Design I: Site Planning. The fundamentals of site planning with reference to the historical, environmental, climatic, technologic, and legal aspects in site design. Introduction to use of surveying equipment and the preparation of a site design with emphasis on the principles of sustainable design. Restricted to major. Studio fee: $24.

ARC399 - Individual Study 399-1 to 16 Individual Study. Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of the entire institution. Each student will work under the supervision of a sponsoring staff member. Special approval needed from the faculty sponsor and school director.


ARC411 - Time, Value & Risk Mgmt 411-3 Construction Management and Operations: Time, Value and Risk Management. Overview of management issues and scheduling for a project. Explain importance of time and risk management in construction and construction business. Study how fundamentals of scheduling, liability, and value are interrelated and explore impacts on project, scope, and budget. Apply constructability, sustainability, return on investment strategies, quality management terms and definitions throughout project phases. Prerequisite: ARC 210 and ARC 310.

ARC412 - Construction Project Mgmt 412-4 Construction Management and Operations: Construction Project Management. This is a two-part course beginning with an overview of the project management process followed by a more in-depth examination of the activities needed to successfully initiate, plan, schedule, and control the time, schedule, scope, and cost factors of a project. The second part of the course conducts a more focused and in-depth application to the CM process and services. Prerequisites: ARC 210 and ARC 310.

ARC413 - Budget & Cost Mgmt 413-3 Construction Management and Operations: Budget and Cost Management. Provide overview of various estimating tools and methods for managing budgets, project estimates, and costs during program, construction and facilities management phases. Identify roles and responsibilities for controlling and monitoring project cost. Identify and develop methods for creating valid project estimates and budgets. Explore Integrated Project Delivery (IPD) for budget and cost management. Prerequisites: ARC 210 and ARC 310.

ARC434 - Preservation Field Studies 434-3 Preservation Summer. (Same as HIST 496B) Field experience in research and historic preservation issues related to regionally and nationally significant historic sites in southernmost Illinois between the Ohio and Mississippi rivers. Not for graduate credit. Special approval needed from the instructor.

ARC444 - Architectural Field Studies 444-1 to 6 Architectural Field Studies. In site study of specified world area(s) concerning the influence of the region's particular culture on architecture, landscape, urban and interior design. The course reviews both historic and current; ethnicity, social, philosophical, religious, economic and political values of the region being visited to gain insights on the symbiotic relationship between culture and design. Not for graduate credit. Fees: cost of transportation, lodging, access fees and general cost related to delivery of the curriculum items that are in addition to on-site courses. Special approval needed from the instructor and school director.

ARC451 - Urban Design & Community 451-6 Urban Design and Community. (Same as ARC 555) Study of urban design and community as cultural and spatial development of human settlement patterns. All previous design course experience will be brought to bear on the architectural projects within the context of urban and community criteria. Not for graduate credit. Prerequisite: ARC 352. Restricted to major. Studio fee: $72.

ARC452 - Design VI: Integration 452-6 Design VI: Integration. (Same as ARC 556) This comprehensive design studio focuses the knowledge and skills developed in all previous courses on a single project. The
course emphasizes the design integration of the building's structural and environmental systems. Not for graduate credit. Co-requisite: ARC 482. Prerequisites: ARC 342, 362, 451, 481. Restricted to major. Studio fee: $72.

ARC462 - Analysis & Lateral Forces 462-3 Structures III: Analysis and Lateral Forces. (Same as ARC 562) Continuing study of framing materials and systems for buildings using advanced concepts of structural analysis. Included are earthquake resistant structures, wind resistant design, composite beams, plastic theory, statically indeterminate structures, long spans, moment distribution, multi-story structures, and other related topics. Not for graduate credit. Prerequisite: ARC 362. Restricted to major.

ARC470 - Architectural Visualization 470-3 Architectural Visualization. This course is designed to give the student a fundamental understanding of the practices of 3D architectural modeling and visualization. Themes emphasized are: 3D modeling; still frame rendering; animation production; image editing and post production. Priority enrollment is given to graduate students in ARC 570 before ARC 470 is offered. Prerequisite: ARC 271. Restricted to architecture and interior design majors. Special approval needed from the advisor.

ARC481 - Environmental Design II 481-3 Environmental Design II: Energy and Systems. (Same as ARC 583, ID 481) The study of the influence of energy, human comfort, climate, context, heating, cooling and water on the design of buildings and sites. The design of passive and active environmental systems and strategies for sustainability. Not for graduate credit. Restricted to major.

ARC482 - Environmental Design III 482-3 Environmental Design III: Lighting and Acoustics. (Same as ARC 584, ID 482) This course provides a comprehensive overview of the luminous and sonic environment with emphasis on energy-conscious design. Not for graduate credit.

ARC499 - Individual Study 499-1 to 16 Individual Study. Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of the entire institution. Each student will work under the supervision of a sponsoring staff member. Not for graduate credit. Special approval needed from the faculty sponsor and school director.

Architectural Studies Faculty

Brazley, Michael D., Associate Professor, Ph.D., University of Louisville, 2002, B.Arch., Howard University, 1978.
Davey, Jon, Professor, Ph.D., Southern Illinois University Carbondale, 2011.
Dobbins, John K., Interim Director and Associate Professor and Head of Master of Architecture Program, M.Arch., M.B.A., University of Illinois, 1986.
Gonzalez-Torres, Rolando E., Associate Professor, Ph.D., Universitat Politecnica de Catalunya, Spain, 2008, M.Ed., Western Kentucky University at Bowling Green, 2001, MLA, Texas A&M, 1996.
Hays, Denny M., Associate Professor, Emeritus, M.Arch., University of Utah, 1971.
Huang, Qian., Assistant Professor, Ph.D, Purdue University, 2013.
Lach, Norman, Assistant Professor, M.Arch., University of Illinois Champaign, 1974.
LaGarce, Melinda, Associate Professor, Emerita, M.F.A., Texas Technology University, 1972.
McDonald, Shannon, Associate Professor, M.Arch., Yale University, 1992.
Smith, Peter B., Associate Professor, M.Arch., University of Illinois, 1980.
Swenson, Robert, Associate Professor, Emeritus, M.Arch., Yale University, 1969.
Tully, Timothy R., Assistant Professor, Emeritus, M.S., Southern Illinois University Carbondale, 1990.
Wright, James K., Assistant Professor, Emeritus, M.Arch., University of Pennsylvania, 1966.

Last updated: 01/12/2017

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Catalog Year Statement:
Students starting their collegiate training during the period of time covered by this catalog (see bottom of this page) are subject to the curricular requirements as specified herein. The requirements herein will extend for a seven calendar-year period from the date of entry for baccalaureate programs and three years for associate programs. Should the University change the course requirements contained herein subsequently, students are assured that necessary adjustments will be made so that no additional time is required of them.