

**University of Arkansas - Fort Smith**  
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**Fort Smith, AR 72913-3649**  
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## **General Syllabus**

### **BSAT 3043 Lighting and Rendering**

Credit Hours: 3

Lecture Hours: 2

Laboratory Hours: 2

Prerequisite: Junior standing or CGT 2684 Digital Design Level II or CGT 2834 Machine Drawing and Design or CGT 2654 Architectural CAD Applications.

Effective Catalog: 2018-2019

#### **I. Course Information**

##### **A. Catalog Description**

A complete review of the computer generated lighting options. Students will prepare an animation showing unique lighting techniques.

##### **B. Additional Information**

This course is required for all BSAT majors.

#### **II. Student Learning Outcomes**

##### **A. Subject Matter**

Upon successful completion of this course, the student will be able to:

1. Render animation using mental ray.
2. Apply appropriate lighting techniques for animations.
3. Evaluate how lens effects animations.
4. Choose camera angles for different lighting techniques.
5. Select camera lights as required for animation productions.
6. Compare shades and shadows applied to animations.

##### **B. University Learning Outcomes**

This course enhances student abilities in the following areas:

###### **Analytical Skills**

**Critical Thinking:** All students will solve problems and justify those solutions.

**Quantitative Reasoning:** Students will apply math and science when reading and analyzing models. Applied animation projects will require quantitative reasoning.

### **III. Major Course Topics**

- A. Camera Lens
- B. Camera Angles
- C. Shadows
- D. Basic Lighting Techniques
- E. Radiosity Techniques
- F. Lighting Analysis