



## **CE243 August 3:0**

### **Bridge Engineering**

#### **Instructor**

Prof. Ananth Ramaswamy  
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#### **Teaching Assistant**

N/A  
Email: N/A

#### **Department: Civil Engineering**

Course Time: Tuesday, Thursday 1130-1 PM

Lecture venue: Structural Engineering Laboratory Lecture Hall

Detailed Course Page:

### **Announcements**

Bridge Engineering (August-December) 3:0

Instructor Prof. Ananth Ramaswamy

### **Brief description of the course**

Bridge aesthetics and blending with surroundings, functionality, design concepts of bridges for different span types, crossings and functionalities.

### **Prerequisites**

Basic design of Steel and Concrete structures, Structural Analysis

### **Syllabus**

Bridge types, aesthetics, general design considerations and preliminary design, IRC/ AASHTO design loads, concrete bridge design - reinforced and prestressed girder bridges, steel bridge design Composite bridges, design of bridge bearings, Pier, Abutment and foundation; seismic and wind load analysis, analysis of cable supported bridge systems, bridge inspection and maintenance.

### **Course outcomes**

Concepts of Bridge design and ability of students to understand force flow and design bridges.

### **Grading policy**

50% Sessionals consisting of 2 tests a seminar and a term paper report and 50% Final.

### **Assignments**

Design of Bridge components for different loading combinations-worst case/ envelope conditions, putting it all together-complete bridge.

### **Resources**

Barker and Puckett Design of Highway Bridges, John Wiley and Sons 2007

Cable Supported Structures Gimsing Prentice Hall