

DYNAMIC ANALYSIS

The objective of this 2-day course is to relate structural dynamics methodology to its implementation in **GT STRUDL**, with a major emphasis on the mode superposition method. The first part of the course will focus on using eigenvalue analysis to solve the free vibration problem for natural frequencies and mode shapes. The second part of the course will present the use of frequency and mode shape results to solve response spectrum, general transient, steady state, and harmonic analysis problems, with particular emphasis on earthquake loads and the response spectrum analysis procedure. The strategy for the course will be to relate the fundamentals of dynamic analysis to stiffness, mass, and damping modeling issues and the use of menus and commands to perform effective solutions.

The course begins at 8:15 AM on May 7th and ends at 4:30 PM on May 8th. The course fee is \$775.

Register On-Line: www.gtstrudl.gatech.edu
or
Fax / Mail the following Registration Form

Name: _____
Company: _____
Address: _____
Phone: () _____
Fax: () _____
Email: _____

April 30 - May 2 Overview of **GT STRUDL** & Basic Static Analysis \$1175
 May 3 - 4 Steel Design \$775
 May 7 - 8 Reinforced Concrete Design \$775
 May 7 - 8 Dynamic Analysis \$775
 May 9 - 10 Advanced Analysis \$775

Payment by:
Visa / Master Card
or

Checks Payable to:

GEORGIA TECH RESEARCH CORPORATION

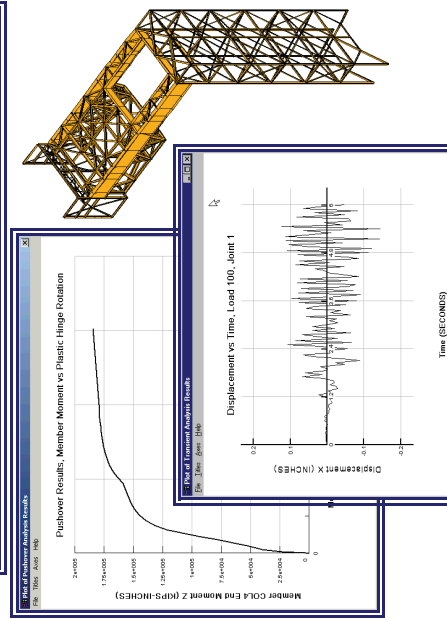
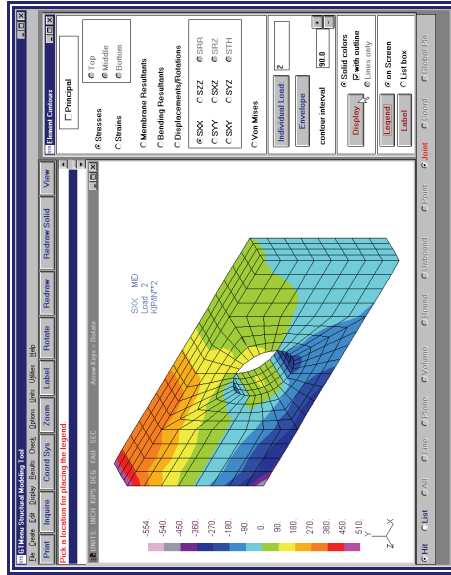
Mail To: Georgia Tech - CASE Center
790 Atlantic Drive
Atlanta, GA 30332-0355

ATTN: **GT STRUDL** Course Registration
404-894-8014

Fax Registration to:
For Additional Information - Phone: 404-894-2260

GT STRUDL®

TRAINING Spring 2012



Member	Pass / Fail	Load	Critical Ratio	Critical Provision	Current Properties
11	Failed	20	2.767	H2-1 TEN	W24x76
12	Failed	20	2.761	H2-1 TEN	W24x76
13	Failed	20	2.795	H2-1 TEN	W24x62
14	Pass	7	0.988	H2-1 TEN	W27x146
15	Pass	7	0.988	H2-1 TEN	W63x118
16	Pass	7	0.985	H2-1 TEN	W14x69
17	Pass	7	0.985	H1-3 COM	W24x104
18	Pass	7	0.951	H2-1 TEN	W24x68
19	Pass	7	0.951	H2-1 TEN	W24x68
20	Failed	7	1.025	H2-1 TEN	W30x108
21	Failed	7	1.031	H2-1 TEN	W36x160

GT STRUDL

Georgia Tech - CASE Center
790 Atlantic Drive
Atlanta, GA 30332-0355 USA

“Providing Quality Engineering Software & Technical Support for Over 25 Years”

PARTICIPANTS

This five (5) course sequence is intended for all current and prospective users of **GT STRUDL**. Courses for the beginning and experienced users are available. The courses also offer an excellent opportunity for engineers who have not yet decided to use **GT STRUDL** to evaluate the program.

OVERVIEW OF GT STRUDL & BASIC STATIC ANALYSIS

This course is intended for structural engineers who have not had prior experience using **GT STRUDL** or for those who are beginning users. A thorough overview of all functional capabilities of **GT STRUDL** is presented first. This is followed by a detailed presentation of how to create and analyze frame structures and result review. The topics to be covered include:

- Geometry modeling
- Member and structure boundary condition specifications
- Special member end conditions
- Member property specifications including the use of steel table rolled shapes
- Independent load and load combination specifications
- Finite element selection, modeling, and convergence characteristics
- Stiffness analysis (static, linear, small displacement)
- Data base query for gross analysis results and internal member force result display
- Graphical modeling and results display

The workshops are used to solve a variety of plane and space frame problems. Graphical modeling and the display and interpretation of analysis results are an important part of the workshops.

The course begins at 8:15 AM on April 30th and ends at 4:30 PM on May 2nd. The course fee is \$1175.

STEEL DESIGN

This course is intended for structural engineers familiar with **GT STRUDL** frame analysis capabilities through the Basic course or by experience and who want to enhance their design engineering productivity by using the integrated design/ analysis capabilities of **GT STRUDL**. Specialized **GT STRUDL** capabilities are presented that allow an engineer to direct automated member selection to practical and architectural constraints. Use of major design codes, the AISC ASD and LRFD, BSI/ASD and Limit State Design, Eurocode, CISC, IS800, ASCE Transmission Tower, and the ASME support structure (NF) codes including weld design are reviewed. Various levels and amounts of code checking and design printed output are illustrated. In addition, the GTTABLE subsystem is described and examples presented for those users wishing to define their own tables of steel profiles. Examples of creating cross-section tables by only specifying cross-section dimensions are also presented. Finally, each student designs frame structures during workshops each day with an emphasis on the efficient use of the system.

The course begins at 8:15 AM on May 3rd and ends at 4:30 PM on May 4th. The course fee is \$775.

ADVANCED ANALYSIS

This course is for those engineers who have taken the Basic Static-Analysis course, or through experience, are competent in Basic **GT STRUDL** capabilities.

The course will focus on advanced linear and nonlinear analysis capabilities. Topics include the geometric nonlinearities, nonlinear supports, nonlinear cable elements, plastic hinges, and the application of elastic buckling and the rigid body and joint constraint capabilities.

The course begins at 8:15 AM on May 9th and ends at 4:30 PM on May 10th. The course fee is \$775.

REINFORCED CONCRETE DESIGN

This course is intended for structural engineers familiar with **GT STRUDL** frame analysis capabilities through the Basic course or by experience and who want to enhance their design engineering productivity. The first day includes a brief overview of the total scope of **GT STRUDL** / RC design capabilities plus a detailed presentation covering the following topics:

- Minimum requirements for the execution of a reinforced concrete design
- Beam, column, and structural wall design
- Floor joist and one-way floor design
- Interpretation of design results output

The presentation for the second day covers the following additional topics:

- Special problem description for analysis and design of orthogonal RC buildings
- RC beam and column checking
- Special features including P-delta analysis and seismic detailing

The discussion and workshop periods focus on the **GTSTRUDL**/RC commands and the use of **GTSTRUDL**/RC capabilities as an integral part of the total RC design process.

The course begins at 8:15 AM on May 7th and ends at 4:30 PM on May 8th. The course fee is \$775.

CANCELLATION NOTICE:

We reserve the right to cancel any course if there are an insufficient number of registrants by the cancellation date. Cancellation dates are one week prior to the start of a course. All refunds due to cancellation by Georgia Tech will be paid in full. Notice of cancellation by registrants must be received by cancellation date for full refund.