

ENSC 2113

Engineering Mechanics: Statics

Lecture 21
Section 6.4

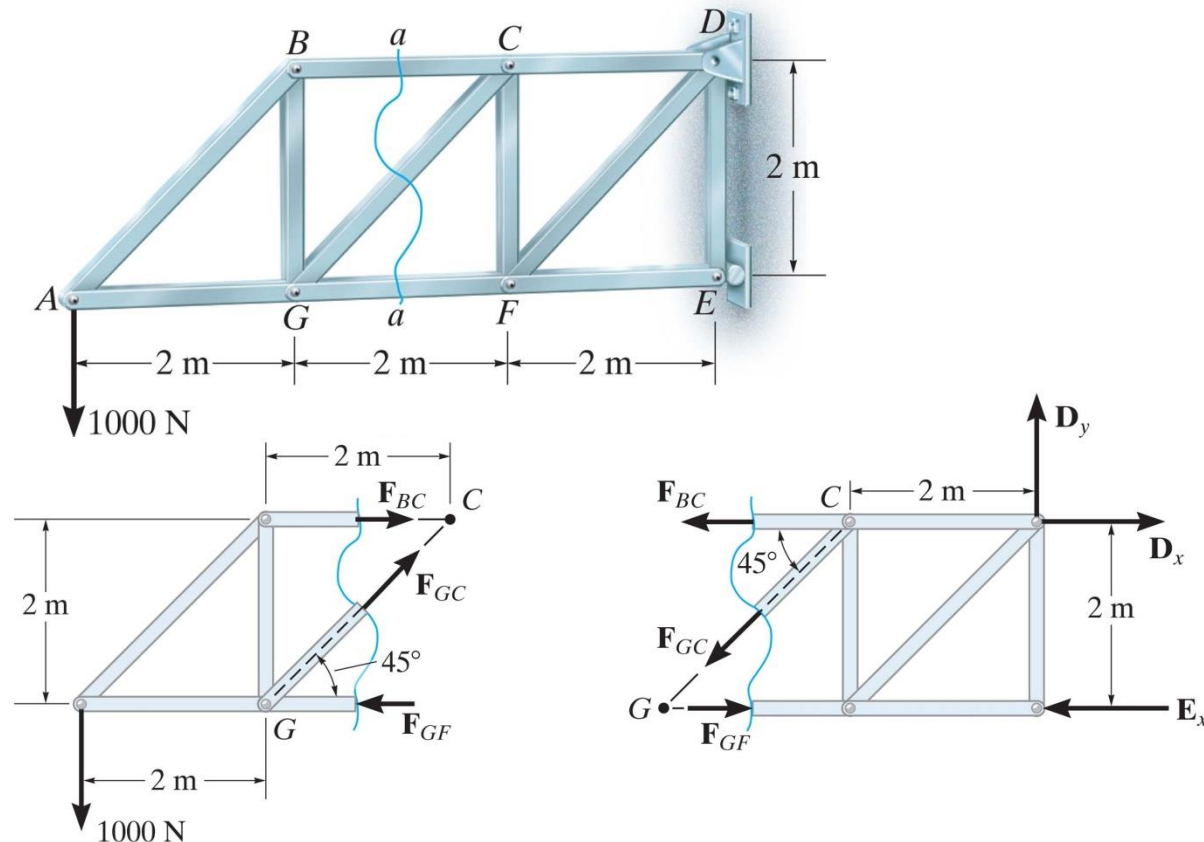


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6.4: The Method of Sections

Isolates forces of specific members. For example, F_{BC} , F_{GC} and F_{GF} shown below:

Cut a section through these members and look at the **FBD** to the left or right to solve for forces.

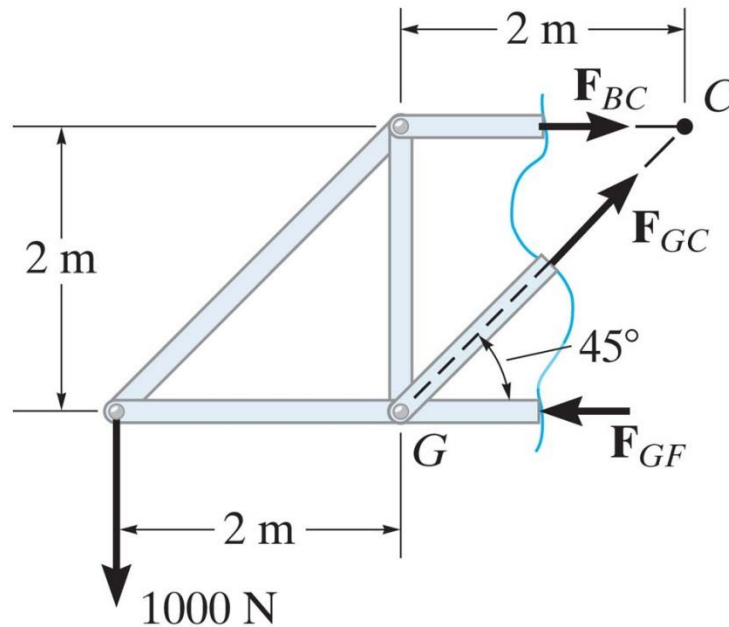


Advantage of *Method of Sections* is three equilibrium eqns:

$$\rightarrow \sum F_x = 0$$

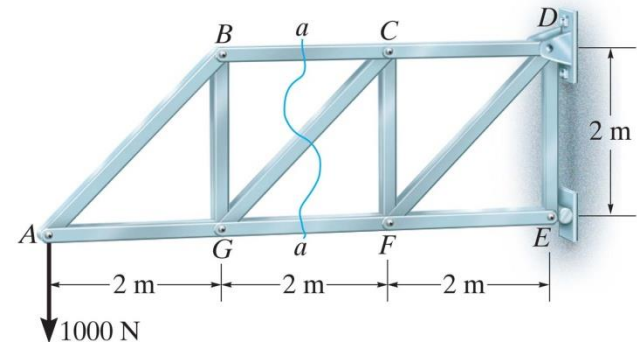
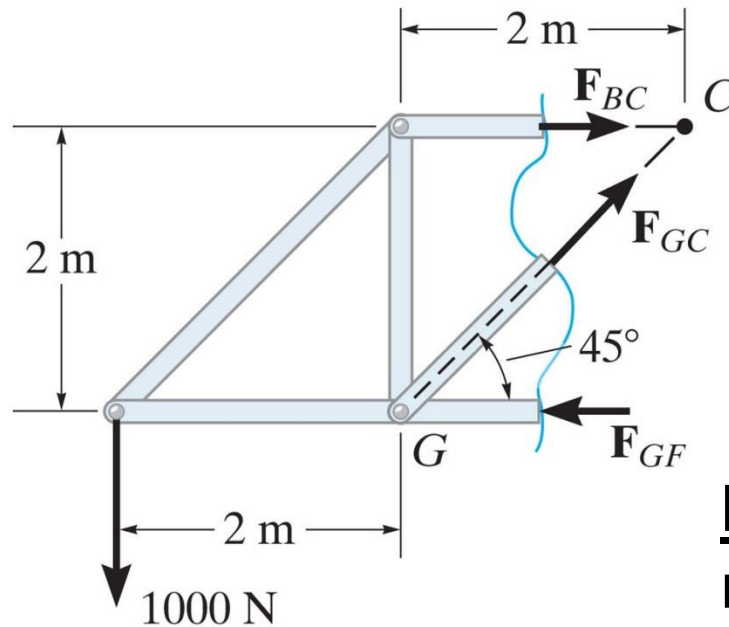
$$\uparrow \sum F_y = 0$$

$$\curvearrowright \sum M = 0$$



Procedure for analysis using *Method of Sections*:

1. Draw full **FBD** of truss & solve for support reactions.
2. Cut the truss through members where forces are to be determined → *This may require multiple cuts*
3. Assume tension direction for member forces and apply equilibrium eqns to solve for forces.



NOTE: Find zero-force mbrs to simplify process.

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