Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student number\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Assignment 5**

The bar truss shown in loaded by vertical force at node 2. If bar 2 is inextensible, determine the non-zero displacements of the nodes. Thecross-sectional area of bar 1 and 3 is  and that of bar 2 is . Young’s modulus  of the material is constant. Use the principle of virtual work.

*L*

*L*

1

3

2

3

*X*

*Z*

4

2

1

*x*

*x*

*x*

*z*

*z*

*z*

*F*