

## Northwestern University Position Description

Univ. Job Title:	Technical and Learning Associate	Jobcode:	
Working Job Title:		Salary Plan:	
Department:	Undergraduate Engineering	Grade:	
Reports To:	Assoc. Dean Undergrad. Engrg.	Position No.:	

**Job Summary** Experience gained over the past 8 years with our all-freshman course, Engineering Analysis, reveals just how crucial it is to get students to learn MATLAB<sup>®</sup> very well, and we found out, furthermore, that the only way to accomplish this is by having an individual who is very skillful both at courseware and at tutoring students with these assignments. In addition, the faculty involved with EA are always evolving its pedagogy, so they are in constant need of services supporting their plans. This individual will, consequently, be the person who will make it all happen.

### **Position's Scope**

The person in this position is key for support of the course, Engineering Analysis (EA), by being responsible for all things related to MATLAB<sup>®</sup>. This is the computer application with which students learn algorithmic thinking skills. EA is a four quarter-long course that is required of all students earning any McCormick bachelor's degree.

Will oversee 3 to 5 graduate students as they serve as teaching assistants.

None.

Description of Principal Accountabilities (specify activities and end results)	% of Time	Essential Function (E) *
Coordinate MATLAB <sup>®</sup> programming labs for the EA course.	30	E
Develop programming assignments for EA labs.	20	E
Teach programming lab sessions and tutor students.	20	E
Grade programming assignments.	20	E
Oversee programming licenses for EA.	5	E
Maintain the EA web sites.	5	E

*Note: The qualifications listed below must support the essential functions, and serve as the primary criteria for selecting/rejecting candidates.*

### **Minimum Qualifications:** (Education, experience, and any other certifications/clearances)

A Bachelor's degree or higher in a relevant science or engineering content area.  
 Proficiency in computer programming.  
 Knowledge of basic mathematics, especially linear algebra, calculus and differential equations.

### **Minimum Competencies:** (Skills, knowledge and abilities)

Excellent written and oral communication skills.  
 Experience with curriculum development, student tutoring, and/or teaching.  
 Willingness to work at odd times when students have been given large assignments.

Updated 2-13-04

**Preferred Qualifications:** (Education and experience)

Familiarity with MATLAB®. Knowledge of basic Newtonian mechanics and dynamic systems.
------------------------------------------------------------------------------------------

**Preferred Competencies:** (Skills, knowledge and abilities)

Ability to work easily with many different faculty. Ability to manage time efficiently and perform effectively with minimal supervision.
---------------------------------------------------------------------------------------------------------------------------------------------

**Working Conditions:**

Are there particular working conditions associated with the position that should be noted (i.e., working environment, hours of work, workspace, etc.)? NO

*\*Refer to page 4 of the “Guidelines for Writing a Competency Based Job Description”.*