



CATALOG YEAR \_2011-2012\_

(Please use separate form for each add/change)

COLLEGE/SCHOOL/SECTION: \_\_\_\_\_ College of Arts and Sciences \_\_\_\_\_

Current Catalog Page(s) Affected: \_\_\_\_\_ pp. \_\_\_\_\_ On Line \_\_\_\_\_

Course: Add: \_\_\_\_\_ Delete: \_\_\_\_\_ Change: Number \_\_\_\_\_ Title \_\_\_\_\_

(check all that apply)

SCH \_\_\_\_\_ Description X Prerequisite \_\_\_\_\_

If new, provide Course Prefix, Number, Title, SCH Value, Description, prerequisite, lecture/lab (hours if applicable) and **student learning outcomes**. If in current catalog, provide change and attach page with changes in red and provide a brief justification.

**Revised System Engineering Courses****SENG 3340** *Robotics and Automation*. Three semester hours. (\*)

Study of the use, design, and deployment of industrial automation and robotics technologies in high-precision, multi-product manufacturing environments. Robot manipulators, kinematics and dynamics, robot automation and control, integrated robotic systems for manufacturing, automation in manufacturing, Programmable Logic Controllers, ~~automation in service industry~~, applications to industrial systems. Prerequisite: SENG 3310. Course Fee: \$35.

**Justification**

The topic automation in service industry is redundant based on the course description. Also, a course fee of \$35 needs to be added for this course.

**Justification for Adding Course Fee**

This course requires several softwares such as LabView, MatLAB, Microsoft Academic Licenses (MSDN Licenses). The cost of the above mentioned softwares and renewal fees per year are:

1. LabView—\$7,999 For Academic Department License with \$500 renewal fees after 5 years.
2. Matlab—\$9,000 for 100 concurrent users licenses for with \$90 per user per year renewal fees.
3. MSDN Academic Alliance (Microsoft softwares)—\$1,200 for the Department Licenses with renewal fee of \$500 per year after 3 years.

Also, during the course period students use different electronic parts including programmable logic controllers, integrators, C/C++ compilers for programming robots, etc., which incur costs to replace and restore parts for student usages. Therefore, an average cost of \$35 needs to be

added as a course fee for SENG 3340 to purchase of different electronic products and renewal/update the software licenses.

**Program:** Add: \_\_\_\_\_ Change: \_\_\_\_\_ Attach new/changed Program of Study description and 4-year plan. If in current catalog, provide change and attach page with changes in red.

**Minor:** Add: \_\_\_\_\_ Delete: \_\_\_\_\_ Change: \_\_\_\_\_ Attach new/changed minor. If in current catalog, provide change and attach page with changes in red.

**Faculty:** Add: \_\_\_\_\_ Delete: \_\_\_\_\_ Change: \_\_\_\_\_ Attach new/changed faculty entry. If in current catalog, provide change and attach page with changes in red.

**College Introductory Pages:** Add information: \_\_\_\_\_ Change information: \_\_\_\_\_ Attach new/changed information. If in current catalog, provide change and attach page with changes in red.

**Other:** Add information: \_\_\_\_\_ Change information: \_\_\_\_\_ Attach new/changed information. If in current catalog, provide change and attach page with changes in red.

Approvals:	Signature	Date
Chair Department Curriculum Committee	_____	_____
Chair Department	_____	_____
Chair College Curriculum Committee	_____	_____
Dean	_____	_____