This is a SouthArk Master Syllabus. The course syllabus distributed by the instructor may include additional requirements, must be followed by the student in the given term, and is considered to supersede the Master Syllabus.

Course Number
MECT 2803

Course Title
Introduction to Robotics

Course Description
Prerequisite: MECT 1804

The course uses a team approach to introduce students the basics of operating industrial robots. The course teaches how robots move (locomotion and kinematics), how they sense (perception), and how they reason about their environment (planning). Lecture information is tied to lab experiments and sessions. Students are exposed to robotics related career options in the manufacturing and other industries (2 class hours / 2 laboratory hours)

College Mission
South Arkansas Community College promotes excellence in learning, teaching, and service; provides lifelong educational opportunities; and serves as a cultural, intellectual, and economic resource for the community.

College Wide Student Learner Outcomes
☒ Critical Thinking ☐ Responsibility ☐ Communication

ACTS Course ☐ Program Course ☒

Program Outcomes
1. Demonstrate the ability to solve critical thinking problems in an industry setting,
2. Understand the logic and concept of an advanced manufacturing system.
3. Operate, program and troubleshoot industrial automated systems.
5. Communicate effectively with peers and supervisors.

ACTS Outcomes

Course Outcomes

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<td>CLO 1</td>
<td>Differentiate between the manual use and systematic use of a robot and robot programming</td>
<td>1-3</td>
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<td>CLO 2</td>
<td>Manipulate a robot using a teaching pendant</td>
<td>1-3</td>
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<td>CLO 3</td>
<td>Perform different troubleshooting diagnostic methods</td>
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<td>CLO 4</td>
<td>Demonstrate robotic software simulations</td>
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<td>CLO 5</td>
<td>Interface robots with other industrial automated machines</td>
<td>4-5</td>
<td>1,3,4</td>
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Unit Outcomes/ Competencies
1. Demonstrate the safe, manual operation of a FANUC industrial robot
2. Manipulate the robot with the teach pendant and record simple motions such as machine loading and stacking
3. Perform software simulations to verify correct motion and timing of programs
4. Simulate the Interface of robotic hardware with a CNC machine tool to facilitate automated machining
5. Simulate the machine vision capabilities of the robot to select objects based upon shape, orientation and color

Assessment Description(s)
Final Average Grading Scale:
90 - 100 = A
80 - 89 = B
70 - 79 = C
60 - 69 = D
59 & BELOW = F

Materials and Technological Requirements
Textbook: TBD

Class Attendance Policy
Students are expected to attend all classes in which they are enrolled. If a student is absent from a class session, it is the student’s responsibility to make arrangements to complete or make up any work missed. No make-up work for missed classes will be allowed without the approval of the instructor. Students who enroll late must assume all responsibility for work missed. Classes not attended as a result of late enrollment may be counted toward excessive absences. Students not attending the entire class period may be counted absent for that period. An instructor may drop students with a grade of “WE” if students have been absent for an excessive number of days. Warning letters will be sent to the students advising them of the consequences of nonattendance and urging them to contact their instructors immediately.
Excessive absences are defined as follows:
Regular Semester
Courses which meet once a week ................................................................. 2 absences
Courses that meet twice per week .............................................................. 3 absences
Courses that meet four times per week ....................................................... 5 absences

Summer Session
Courses that meet four times per week in a five week session .................. 3 absences
Courses which meet two evenings per week in a 10 week session .......... 3 absences

Students enrolled in special programs or individualized instruction should contact their program director/instructor regarding specific attendance requirements for the program/course. Some of the selective-admission, health-science programs have specific criteria regarding attendance. Students are encouraged to refer to program policies in these matters.

Jury Duty/Military/Official School Function
Scheduled absences are those that occur due to college-related activities or as a result of summons to jury duty or military duty. Classes missed as a result of scheduled absences will not be counted as excessive absences if the instructor is notified and provided documentation prior to the absence(s). Make-up work for scheduled absences will be at the discretion of the instructor.
In all instances, documentation must be provided to the instructor within 24 hours of receipt. Documentation should come from an appropriate party on letterhead or other official stationery with a signature and contact information. Documentation should list the corresponding dates of the leave.

Medical leave
For medical-related absences, documentation must include written notice from the treating medical professional documenting time needed off related to medical reasons and time student may resume classes. The medical reason does not need to be listed on the documentation; the documentation must include only that there is a medical reason, the amount of time the student needs to be absent, and the
time the student should be able to return to classes. Students who elect to work at home while on
excused leave must meet with their instructors to make arrangements to do so. Working on coursework
while on medical leave is not a requirement but can be requested by students. If students request that
they be allowed to work at home while on an excused leave, the instructor will make every reasonable
effort to ensure that the student is able to do so.
For students who have a medical condition necessitating time off or accommodation:
1) They may work at home on assignments if they choose to if on medical leave approved by a medical
   professional
2) Receive appropriate accommodations related to coursework (i.e., excused from labs with potentially
   harmful chemicals, have a larger desk, etc.)
3) Resume their studies where they left off once they return to classes
4) Be allowed to make up any missed work related to medical leave
5) Receive incompletes on their transcripts until coursework is completed, according to the incomplete
   grade contract.
6) Be given a reasonable time frame in which to complete missed coursework

**Academic Honesty Policy**

Students enrolled at South Arkansas Community College are expected at all times to uphold standards of
integrity. Students are expected to perform honestly and to work in every way possible to eliminate
academic dishonesty. Academic dishonesty includes cheating and plagiarism, which are defined as
follows:

- **Cheating** is an attempt to deceive the instructor in his/her effort to evaluate fairly an academic
  exercise. Cheating includes copying another student’s homework, class work, or required project
  (in whole or in part) and/or presenting another’s work as the student’s own. Cheating also
  includes giving, receiving, offering, and/or soliciting information on a quiz, test, or examination.

- **Plagiarism** is the copying of any published work such as books, magazines, audiovisual
  programs, electronic media, and films or copying the theme or manuscript of another student. It is
  plagiarism when one uses direct quotations without proper credit or when one uses the ideas of
  another without giving proper credit. When three or more consecutive words are borrowed, the
  borrowing should be recognized by the use of quotation marks and proper parenthetical and
  bibliographic notations.

If, upon investigation, the instructor determines that the student is guilty of cheating or plagiarism, the
following penalties will apply:

- The student will receive a penalty of no less than a zero on the work in question.
- The instructor will submit a Student Academic Misconduct Form, written report of the incident, to
  the appropriate dean.
- The dean will submit form to Vice President for Learning to determine disciplinary action.
- The Vice President for Learning will determine whether further disciplinary action will be taken.
- All decisions may be appealed for review through the college’s academic appeals procedure.

**Equal Opportunity-Affirmative Action Statement**

South Arkansas Community College does not discriminate on the basis of age, race, color, creed, gender,
religion, marital status, veteran’s status, national origin, disability, or sexual orientation in making
decisions regarding employment, student admission, or other functions, operations, or activities.

**Library Services**

Library Homepage: [http://southark.libguides.com/homepage](http://southark.libguides.com/homepage)
Library Contact: LibraryStaff@southark.edu or 870.864.7115

**Procedures to Accommodate Students with Disabilities:**
If you need reasonable accommodations because of a disability, please report this to the Vice President
of Student Services with proper documentation. VPSS Contact: 870.875.7262
The Early Alert System
In an effort to ensure student retention and success, South Arkansas Community College employs an Early Alert System to identify and support at-risk students as soon as possible in a given semester. The intent of Early Alert is to provide this assistance while there is still time to address behaviors or issues that have the potential of preventing students from completing their courses and degree plans. Students referred through the Early Alert System will be required to work on a corrective action plan with their student advising coach and to include attendance accountability and mandatory academic tutoring either in the academic division or in the Testing and Learning Center (TLC).

Once the Student Advising Coach has met with the referred student, and again when the student has met the prescribed corrective actions, the coach will update the Early Alert System so that the instructor is kept informed of the progress in resolving issues.

Behavioral Review Team
At South Arkansas Community College (SouthArk), we are committed to proactive leadership in student wellbeing and campus safety. By focusing on prevention and early intervention with campus situations that involve any person experiencing distress or engaging in harmful or disruptive behaviors, the BRT will serve as the coordinating hub of existing resources to develop intervention and support strategies and offer case management. Students, faculty, staff, and campus guests are encouraged to report any person on campus who is a concern. BRT Contact: 870.875.7262 BRT@southark.edu

Date of Revision: 9/21/2016