

## Computing for Automotive Applications – AUT 335-001

### Faculty Information

**Professor:** Ralph F. Tate ▪ [rtate@siu.edu](mailto:rtate@siu.edu) ▪ (618) 453-9135 ▪ TEC Room 140F

**Office Hours:** 8:30-10:30 Monday, Wednesday, Friday

### Course Information

**Classroom/Time:** TEC Room 132 ▪ 12:00-12:50 Monday, Wednesday and Friday

#### Course Description:

The successful student will demonstrate by class discussion, practical assignments and examinations an understanding of computers and computer systems within the automotive industry. Course material will consist of, but is not limited to: microcomputers, pre-written software packages, automotive OEM diagnostic computer systems familiarization, PROM introduction, EEPROM flashing and new automotive industry computer technology. Emphasis will be on the computer as a management and service diagnostic tool.

#### Required Textbook:

Parsons & Oja (2011) *Practical Microsoft Office 2010: Text w/CD*, (1st ed.), Cengage.  
ISBN10: 0-538-74595-9, ISBN13: 978-0-538-74595-6

#### Materials Required:

- An active SIU e-mail account.
- An Active D2L (<https://online.siu.edu>) account signed onto the AUT 335 course.
- Google Drive or USB memory stick for document and data storage.

#### End-of-Course Competencies

##### The student will be able to:

1. Demonstrate competency in the use of personal computers and business application software as required by the automotive industry.
2. Describe data types, basic computer architecture and concepts, systems and components, and OEM/aftermarket automotive computer diagnostic systems.
3. Demonstrate skills and knowledge of microcontrollers and microcontroller programming, and basic analog and digital signal acquisition and control.
4. Demonstrate analytical and critical reasoning skills for problem solving of automotive computing case studies.
5. Demonstrate basic knowledge of data communications as applied to automotive technology.
6. Demonstrate competency in the use of ALLDATA.

### Course Policies/Procedures:

- Computer use in the classroom is required but should not be disruptive or distracting to the learning environment. Watching movies, listening to music, posting to Facebook, etc., will result in a request to cease such actions. A second request will result in an absence for that class period.
- Cell phones/smart phones should be silent during classroom sessions. If you need to take an emergency call, please take it out of the classroom before answering or returning the call.
- Cell phones/smart phones will be turned OFF during exam times.
- Quizzes and in-class assignments CANNOT be made up.
- Generally, late work will not be accepted. Exceptions will be considered if the late work is submitted before the end of the course, but a grade point penalty will be levied.
- Missed exams can only be made up if arrangements are made **prior** to exam dates.

### Attendance Policy:

The faculty of Southern Illinois University Carbondale, affirm the importance of prompt and regular attendance on the part of all undergraduate students. Quality instruction clearly depends upon active student participation in the classroom or its equivalent learning environment. This concept is further expounded upon in the *Southern Illinois University Carbondale Catalog*.

Attendance is required and will be recorded. If you have to be absent, please email as soon as possible or call (leave a message if I am not in).

Students who officially register for a session may not withdraw from the University or drop courses merely by discontinuing attendance. Students must go online and officially withdraw themselves from the University or drop any course which they will not attend. Students should notify their academic advisor that they are withdrawing from the University or dropping a course so that the advisor can follow up to ensure the withdrawal/drop was processed correctly. Ultimately it is the student's responsibility and the process of withdrawing or dropping courses starts with the student. Students who stop attending and do not officially withdraw will be assigned a grade of "WF" (failure) and will be liable for the cost of the course or courses not attended.

### Assignment Guidelines and Grading Policies/Procedures

#### Exercises and Assessments:

- There will be **10 laboratory exercises** assigned during the semester that will require application of Microsoft Office tools and techniques to solve a given automotive industry computing problem.
- **4 exams** will be given during the semester to assess skills and knowledge of Microsoft Word, Excel, Access, and PowerPoint.
- **12 quizzes** will be available through the D2L course site to assess knowledge of Microsoft Office, microcontroller and computer fundamentals, and ALLDATA access.
- A **comprehensive final exam** will be given at the end of the semester.

**Grading:**

Attendance:	5%
Quizzes/Exams:	40%
Lab Projects:	55%

**Grading Scale:**

<b>A</b>	93 - 100%
<b>B</b>	85 - 92%
<b>C</b>	77 - 84%
<b>D</b>	70 - 76%
<b>F</b>	< 70%

**Overview:**

1. Getting Started with Application Software on Personal Computers
2. Microsoft Word
  - a. Creating a Document
  - b. Formatting a Document
  - c. Finalizing a Document
3. Microsoft Excel
  - a. Creating a Worksheet
  - b. Formatting a Worksheet
  - c. Finalizing a Worksheet
4. Microsoft PowerPoint
  - a. Creating a Presentation
  - b. Finalizing a Presentation
5. Microsoft Access
  - a. Creating a Database
  - b. Finalizing a Database
6. Computer Basics
  - a. Data Types and Structures
  - b. Computer Hardware and Software
  - c. Operating Systems
7. Microcontroller Basics
  - a. I/O Signals and Control
  - b. Memory (RAM/ROM/EEPROM)
  - c. Programming
8. Automotive Computer Diagnostics
  - a. OBD II and CAN Bus
  - b. OEM/Aftermarket Scan tools

**Assigned Readings:** See assignments on course D2L site

**Syllabus Modification:**

The instructor reserves the right to make changes to the current course syllabus in order to improve the content and better facilitate the learning process. Students will be notified of syllabus changes through classroom and D2L announcements.

*"We emphasize student achievement and success because achievement and success are essential if we are to shape future leaders and transform lives"*

### IMPORTANT DATES

Last day to add a class (without instructor permission)..... 8/30/2013  
Last day to withdraw completely and receive a 100% refund.....9/01/2013  
Last day to drop a course using SalukiNet .....10/27/2013  
Last day to file diploma application (for name to appear in Fall Commencement program).....11/01/2013  
Final examinations .....12/9 – 12/13/2013

*Note: For outreach, internet, and short course drop/add dates, visit Registrar's Academic webpage <http://registrar.siu.edu/>*

### FALL SEMESTER HOLIDAYS

Labor Day 09/02/2013  
Fall Break 10/12—10/15/2013  
Thanksgiving Break 11/27—12/1/2013

### WITHDRAWAL POLICY ~ Undergraduate only

Students who officially register for a session may not withdraw merely by the stopping of attendance. An official withdrawal form needs to be initiated by the student and processed by the University. For the proper procedures to follow when dropping courses and when dropping from the University, please visit <http://registrar.siu.edu/pdf/ugradcatalog1314.pdf>

### INCOMPLETE POLICY~ Undergraduate only

An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a completed grade within one semester following the term in which the course was taken, or *graduation*, whichever occurs first. Should the student fail to complete the course within the time period designated, that is, by no later than the end of the semester following the term in which the course was taken, or graduation, whichever occurs first, the incomplete will be converted to a grade of *F* and the grade will be computed in the student's grade point average. *For More information please visit <http://registrar.siu.edu/grades/incomplete.html>*

### REPEAT POLICY

An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than two times (two total enrollments) unless otherwise noted in the course description. For students receiving a letter grade of A,B,C,D, or F, the course repetition must occur at Southern Illinois University Carbondale. Only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. *See full policy at <http://registrar.siu.edu/pdf/ugradcatalog1314.pdf>*

### GRADUATE POLICIES

Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please visit <http://gradschool.siu.edu/about-us/grad-catalog/index.html>

### DISABILITY POLICY

Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must come to the disability office to open cases. The process involves interviews, reviews of student-supplied documentation, and completing Disability Accommodation Agreements. <http://www.siu.edu/dss>

### STUDENT CONDUCT CODE

[http://policies.siu.edu/other\\_policies/chapter3/conduct.html](http://policies.siu.edu/other_policies/chapter3/conduct.html)

### SALUKI CARES

The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For Information on Saluki Cares: (618) 453-5714, or [siucares@siu.edu](mailto:siucares@siu.edu), <http://salukicare.siu.edu/index.html>

### EMERGENCY PROCEDURES

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. We ask that you become familiar with the **SIU Emergency Response Plan** and **Building Emergency Response Team (BERT)** program.

Emergency response information is available on posters in buildings on campus, available on BERT's website at [www.bert.siu.edu](http://www.bert.siu.edu), Department of Safety's website [www.dps.siu.edu](http://www.dps.siu.edu) (disaster drop down) and in Emergency Response Guideline pamphlet. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. ***It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.***

### INCLUSIVE EXCELLENCE

SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ is an important part of education, as well an essential preparation for any career.

### MORRIS LIBRARY HOURS

<http://www.lib.siu.edu/about>

### LEARNING AND SUPPORT SERVICES

Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit Center for Learning and Support Services website for:

**Tutoring** : <http://tutoring.siu.edu/>

**Math Labs** [http://tutoring.siu.edu/math\\_tutoring/index.html](http://tutoring.siu.edu/math_tutoring/index.html)

### WRITING CENTER

The Writing Center offers free tutoring services to all SIU students and faculty. To find a Center or Schedule an appointment please visit <http://write.siu.edu/>

### AFFIRMATIVE ACTION & EQUAL OPPORTUNITY

Our office's main focus is to ensure that the university complies with federal and state equity policies and handles reporting and Investigating of discrimination cases. *For more information visit <http://diversity.siu.edu/#>*

### **Additional Resources Available:**

**SALUKINET:** <https://salukinet.siu.edu/cp/home/displaylogin>

**ADVISEMENT:** <http://advisement.siu.edu/>

**PROVOST & VICE CHANCELLOR:** <http://pvcaa.siu.edu/>