

Shawnee State University  
College of Business and Engineering Technology  
Department of Engineering Technology

**ETEC 3402 – 02: Automata and Formal Languages**  
**TTh 3.00 – 5.15**  
**Autumn 2025**

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**Instructor:** R. Duane Skaggs, PhD  
**Email:** [dsdaggs@shawnee.edu](mailto:dsdaggs@shawnee.edu)

**Office:** ATC 309  
**Phone:** 1.740.351.3466

**Office Hours:** MW 11.15 – 12.00 in ATC 104  
TTh 1.45 – 3.00 in ATC 309 or ATC 255  
plus appointments, email, or Discord (Skaggsy)

**Class Discord:** <https://discord.gg/aYm7XZH>  
**Houses Discord:** <https://dsc.gg/ssugaminghouses>  
**SSU Games Discord:** <https://discord.gg/ssugames>  
**SSU Game Jam Discord:** <https://discord.gg/ZNKR5rM8yS>

### Catalog Description

**ETEC 3402. Automata and Formal Languages.** *Prerequisite: ETEC 3401.* The study of formal models of computation in terms of abstract language and machine models. These include formal languages, finite state automata, pushdown automata, Turing machines, and grammars.

This course is an introduction to fundamental questions of computer science. In particular, it is an analysis of the limitations of computability, logic, and mathematical proof. Topics include finite automata and regular languages, pushdown automata and context-free languages, the Church-Turing thesis, decidability, and the Halting Problem. If time permits, we will also further explore complexity classes and NP-completeness as seen in your algorithms course.

### Suggested Text

Wayne Goddard, *Introduction to the Theory of Computation*, Jones and Bartlett Publishers, 2008. Additional references will also be provided in class and on Blackboard.

### Course Objectives

This course is intended to introduce students both to the power and limitations of computation and logical thought. By the end of the term students will understand some types of problems that cannot be solved in certain systems and will be able to determine whether other problems can be solved in a reasonable amount of time. Students will also understand some philosophical implications of the results of the course.

### Grading Policy

The grade will be distributed amongst homework, classwork, and labs (50%), three exams (30%), and a comprehensive final exam (20%).

94% or higher	A
90% to less than 94%	A-
88% to less than 90%	B+

84% to less than 88%	B
80% to less than 84%	B-
78% to less than 80%	C+
74% to less than 78%	C
70% to less than 74%	C-
68% to less than 70%	D+
64% to less than 68%	D
60% to less than 64%	D-
Less than 60%	F

### **Attendance Policy**

You are responsible for all missed work, assignments, or activities. Makeup work may be permitted with a valid excuse but may not receive full credit unless prior arrangements are made. Late work will not be accepted once solutions have been posted. Missed exams can be made up only in the case of documented and excused absences. Please notify the professor as soon as possible, preferably by email, if you will not be in class.

Attendance will be taken each day but will not *directly* affect your grade even though studies have shown that attendance is the single most important factor in classroom and future success. You are an adult, so you can decide whether coming to class is worth your time. In any case, do not come to class if you are ill or potentially contagious.

### **Academic Integrity**

Unless otherwise specified, you are encouraged to discuss questions with other students in the class. However, all write-ups and programs that you submit must reflect your own work and are not to be shown to anyone else. If you discuss questions with others, then be sure to properly cite their assistance.

All work submitted for this course must be your own. The assignments in this class have been designed to challenge you to develop creativity, critical-thinking, and problem-solving skills. Any use of generative AI tools, including but not limited to ChatGPT, when working on assignments is forbidden. Using AI technology will limit your capacity to develop these skills and to meet the learning goals of this course.

You should know what cheating and plagiarism are, so avoid any situation that possibly could be perceived as such. Violations will be punished to the full extent allowable. If you have any questions about what constitutes academic integrity in this course or at Shawnee State University, please contact your instructor or refer to the Student Code of Conduct.

### **Exam Dates**

Expect three exams during the term. Each exam covers content from about six class meetings.

Exam 1: 16 September

Exam 2: 14 October

Exam 3: 6 November

## **Comprehensive Final Exam**

Thursday, 11 December, 2.00 – 3.50

## **SSU Network or IT Problems**

If you have IT questions then contact IT Support and submit a Help Ticket or find the link at [www.shawnee.edu](http://www.shawnee.edu) by Current Students > Technical Support menu > Get Help: IT Service Desk Form. The link is also on the SSU App.

## **Clark Memorial Library**

For library hours, online research, or to message a librarian with questions, visit <https://www.shawnee.edu/areas-study/clark-memorial-library>

## **Bear Care Clinic**

The [Bear Care Clinic](#) is located in the Smokestack Building. It is open Monday-Friday from 10 am to 4 pm during the Autumn and Spring terms. The phone number is 740.355.7102.

- First-aid services
- Quick care for minor illnesses and injuries
- Counseling, mental health, and psychological services
- Health and wellness care through a partnership with Compass Community Health
- Student insurance will be billed, but the Bear Care Clinic accepts all students regardless of their ability to pay.

## **Americans with Disabilities Act (ADA)**

Any student who believes they may need an accommodation based on a documented disability should first contact the Coordinator of Accessibility Services at 740.351.3608 and schedule a meeting to identify potential reasonable accommodations. Students are strongly encouraged to initiate the accommodation process in the early part of the semester or as soon as the need is recognized.

The Office of Accessibility Services will gather relevant information and determine whether an accessibility accommodation is warranted. When an accommodation is determined to be warranted, an accommodation letter will be sent to the instructor(s) and student via secure e-mail prior to the semester start date, when possible, or as soon as is feasible. The Office of Accessibility Services will not disclose the nature of any disability with instructors, but if the student wishes to discuss the disability with one or more instructors, then they may do so.

Any questions regarding the academic accommodation or the letter should be addressed to the Coordinator of Accessibility Services. If a student does not make a timely request for academic accommodation and/or fails to meet with the Coordinator of Accessibility Services, a reasonable accommodation may be denied or delayed.

## **ORC 3345.024 and University Policy 2.21**

As an essential part of a liberal society, an individual should have the freedom to believe or not in a religion or spiritual belief system. Under the Ohio Revised Code section 3345.024, also known as *The Testing Your Faith Act*, a student may be absent for up to three days per semester to “take holidays for reasons of faith or religious or spiritual belief system or participate in

*organized activities conducted under the auspices of a religious denomination, church, or other religious or spiritual organization". Pursuant to University Policy 2.21 and Procedure 2.21:1, students are required to notify faculty of their various classes about necessary absences as early as possible after the commencement of a course, and not more than fourteen (14) calendar days after the first day of instruction in the course. Faculty will make accommodations without questioning the sincerity of the student's religious or spiritual belief system and will keep all requests confidential. For additional information about this policy or procedure, please contact the Office of the Registrar at 740.351.4734 or [ssu\\_registrar@shawnee.edu](mailto:ssu_registrar@shawnee.edu). Complaints regarding this policy and procedure may be submitted by selecting *Religious Accommodation* online at [www.shawnee.edu/complaint](http://www.shawnee.edu/complaint).*

### **Title IX Statement**

Shawnee State University is committed to maintaining a learning environment free from retaliation, harassment and discrimination on the basis of race, color, genetic information, religion, age, disability, national origin, ancestry, sex, status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, sexual orientation, gender, gender identity or gender expression, veteran status or military status. These acts violate an individual's fundamental rights and personal dignity and will not be tolerated. The University seeks to address all forms of discrimination and harassment, and all sexual violence through education, policy enforcement, and by providing mechanisms for students, faculty, staff, and visitors. Faculty members are considered "Mandatory Reporters" and are required to report incidents of sexual harassment and sexual violence to the Title IX Coordinator. To report concerns directly, please contact Desiree Isaac, JD, Title IX Coordinator at 740.351.3877 or <https://www.shawnee.edu/campus-life/title-ix/report-incident>. Reporting such matters does not automatically trigger formal action, but those involved may be entitled to various resources and accommodations.

### **Career Services**

Visit **Career Services** for assistance with Career Planning, Resumes, Cover Letters, Interview Preparation, Job Search, Weighing Job Offers, Finding Internships, and Searching/Applying to Graduate School(s). The **Career Services** office is in 124 Massie Hall. Contact by telephone at 740.351.3027 or email at [careers@shawnee.edu](mailto:careers@shawnee.edu). Hours are 9 am – 5 pm, Monday – Friday.

**Handshake** is the school's official job/internship portal. Thousands of employers are hiring students on Handshake. Once you fill in your career interests, you will get personalized recommendations for jobs and events and direct outreach from employers interested in students like you—*80% of students with a complete Handshake profile get messaged by employers!*

Find out how to activate and use your **Handshake** account at: <https://bit.ly/ShawneeHandshake>.

### **Important Dates**

- 25 August: Classes begin
- 29 August: Last day to add a full-term class
- 1 September: **Labor Day** (University closed)
- 5 September: Last day to apply for pass/no credit
- 5 September: Last day to drop for 100% refund and no WD grade
- 2 – 3 October: **Autumn Break** (No classes)

- 22 October: Student progress reports available on MySSU
- 22 October: Last day to add second-half term class
- 27 – 30 October: Priority registration for Spring term
- 1 November: Last day to petition for Spring or Summer graduation
- 7 November: Last day to drop a full-term class without formal appeal
- 7 – 8 November: Shawnee Game Conference
- 11 November: **Veteran's Day** (University closed)
- 26 – 28 November: **Thanksgiving Break**  
(No classes Wednesday, University closed Thursday and Friday)
- 5 December: Last day of classes
- 6 – 12 December: Final Exams
- 13 December: Autumn Commencement
- 16 December: Grades submitted by noon
- 17 December: Final grades available on MySSU