

HART 1401 Basic Electricity

Please Note: Due to extenuating circumstances, including public health issues, course and testing delivery methods, instructional schedules, housing contracts, campus procedures and/or operating hours may be altered, interrupted and/or ceased for a limited or extended period of time. Such changes will be posted on the College website.

Course Syllabi

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Course Description

Principles of electricity as required by HVAC technicians including proper use of test equipment, A/C, and D/C circuits, and component theory and operation. Advanced electrical instruction and skill-building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in power distribution, motors, motor controls and application of solid-state devices. The student will exhibit knowledge of basic principles of electricity, electrical current, circuitry, and A/C devices; apply Ohm's law to electrical calculations; perform electrical continuity, voltage and current tests with appropriate meters and demonstrate electrical safety.

Major Instructional Areas

- Electrical Safety
- Basic Electricity
- Electric Circuits
- Electric Meters
- Components, Symbols, and Circuitry of Air-Conditioning Wiring Diagrams
- Reading Schematic Diagrams
- Alternating Current, Power Distribution, and Voltage Systems
- Installation of Heating, Cooling, and Refrigeration Systems
- Basic Electric Motors
- Components for Electric Motors
- Contactors, Relays, and Overloads
- Thermostats, Pressure Switches, and Other Electric Control Devices
- Electronic Control Devices
- Heating Control Devices
- Troubleshooting Electric Control Devices
- Residential Air-Conditioning Control Systems
- Commercial and Industrial Air-Conditioning Control Systems

- Troubleshooting Modern Refrigeration, Heating, and Air-Conditioning Control Circuitry and Systems

Student Learning Outcomes

- The student will be able to demonstrate knowledge of the basic principles of electricity, electrical current, circuitry, and air conditioning devices
- The student will be able to apply Ohm's Law to electrical calculations
- The student will be able to demonstrate electrical safety

Course Objectives

Upon completion of this course the student will be able to:

Chapter 1: Electrical Safety

- Explain the effect of electric current on the human body.
- Understand the injuries that are possible from an electric shock.
- Know the basic procedures in the event of an electrical shock.
- Understand the importance of properly grounding tools and appliances.
- Safely use electrical hand tools and electric meters.
- Follow the principles of safety when installing and servicing heating and air-conditioning equipment.

Chapter 2: Basic Electricity

- Briefly explain the atomic theory and its relationship to physical objects and electron flow.
- Explain the flow of electrons and how it is accomplished.
- Explain electrical potential, current flow, and resistance and how they are measured.
- Explain electrical power and how it is measured.
- Explain Ohm's law.
- Calculate the potential, current, and resistance of an electrical circuit using Ohm's law.
- Calculate the electrical power of a circuit and the Btu/hour rating of an electrical resistance heater.

Chapter 3: Electric Circuits

- Explain the concepts of a basic electric circuit.
- Explain the characteristics of a series circuit.
- Explain the characteristics of a parallel circuit.
- Describe how series circuits are used as control circuits in the air-conditioning industry.
- Describe how parallel circuits are used as power circuits in the air-conditioning industry.

- Explain the relationship and characteristics of the current, resistance, and electromotive force in a series circuit.
- Explain the relationship and characteristics of the current, resistance, and electromotive force in a parallel circuit.
- Calculate the current, resistance, and electromotive force in a series circuit.
- Calculate the current, resistance, and electromotive force in a parallel circuit.
- Explain the characteristics of the series-parallel circuit.
- Describe how series-parallel circuits are utilized in the air-conditioning industry.

Chapter 4: Electric Meters

- Describe the use of the volt-ohm meter and clamp-on ammeter in the heating, cooling, and refrigeration industry.
- Explain the operation of the basic electric analog meter.
- Explain how analog electric meters transfer a known value in an electrical circuit to the meter movement.
- Describe the operation of an analog voltmeter.
- Describe the operation of an analog and digital clamp-on ammeter.
- Describe the operation of an analog ohmmeter.
- Explain the operation of a digital volt-ohm meter.
- Give the advantages and disadvantages of the analog and digital meters.
- Describe the conditions of resistance that can exist in an electrical circuit in reference to continuity.
- Describe the source of energy for the operation of the analog voltmeter, ammeter, and ohmmeter.

Chapter 5: Components, Symbols, and Circuitry of Air-Conditioning Wiring Diagrams

- Explain what electrical loads are and their general purpose in heating, cooling, and refrigeration systems.
- Give examples of common loads used in heating, cooling, and refrigeration systems.
- Identify the symbols of common loads used in heating, cooling, and refrigeration systems.
- Explain the purpose of relays and contactors in heating, cooling, and refrigeration systems.
- Identify the symbols of relays and contactors in heating, cooling, and refrigeration systems.
- Explain the purpose of switches and the types used in heating, cooling, and refrigeration systems.
- Identify the symbols of switches in heating, cooling, and refrigeration systems.
- Identify the symbols and purpose of other miscellaneous controls in heating, cooling, and refrigeration systems.

- Identify the different types of wiring diagrams used in the industry and the purpose of each.

Chapter 6: Reading Schematic Diagrams

- Read and interpret the schematic of a dehumidifier.
- Read and interpret the schematic of a window air-conditioner.
- Read and interpret the schematic of a walk-in cooler.
- Read and interpret the schematic of a commercial freezer.
- Read and interpret the schematic of a gas furnace with a standing pilot.
- Read and interpret the schematic of a small packaged residential air-conditioner.
- Read and interpret the schematics of light commercial air-conditioning systems with control relays.
- Read and interpret the schematics of light commercial air-conditioning systems with lockout relays.
- Read and interpret the schematics of two-stage heating and two-stage cooling systems.
- Read and interpret the schematics of heat pumps with defrost boards.
- Read and interpret the schematic of a commercial refrigeration system with a pump down.
- Read and interpret most diagrams found in the refrigeration, heating, and air-conditioning industry.

Chapter 7: Alternating Current, Power Distribution, and Voltage Systems

- Explain the basic differences between direct and alternating current.
- Briefly explain how alternating current is produced.
- Explain the difference between single-phase and three-phase power distribution systems.
- Explain inductance, reactance, and impedance.
- Explain a basic power distribution system.
- Explain the common voltage systems.
- Identify the common voltage systems.

Chapter 8: Installation of Heating, Cooling, and Refrigeration Systems

- Understand the standard wire size as defined by the American Wire Gauge (AWG).
- Give the advantages and disadvantages of copper and aluminum conductors.
- Explain the factors that are considered when sizing an electrical circuit conductor.
- Correctly sized and install electrical conductors for circuits used in the industry by the *National Electrical Code*® and manufacturers' instructions.
- Calculate the voltage drop in an electrical circuit.
- Explain the types of enclosures for disconnect switches that are available.

- Explain the types, sizes, and enclosures of disconnect switches that are used in the industry.
- Explain the types of electrical panels that are used to distribute electrical power to circuits in the structure.
- Install breakers in an electrical breaker panel.

Chapter 9: Basic Electric Motors

- Explain magnetism and the part it plays in the operation of electric motors.
- Explain torque and the purpose of different types of single-phase motors.
- Explain the operation of a basic electric motor.
- Understand how to operate, install, reverse the rotation (if possible), and diagnose problems in a shaded-pole motor.
- Understand the purpose of capacitors in the operation of a single-phase motor and be able to explain the difference between a starting and running capacitor.
- Correctly diagnose the condition of any capacitor and, using capacitor rules, be able to substitute a capacitor if a direct replacement is not available.
- Explain how to operate, install, troubleshoot, and repair (if possible) split-phase and capacitor-start motors.
- Explain how to operate, install, troubleshoot, and repair (if possible) permanent split capacitor motors.
- Explain how to operate, install, troubleshoot, and repair (if possible) capacitor-start–capacitor-run motors.
- Understand how to operate, install, reverse, and troubleshoot three-phase motors.
- Explain how to operate, install, troubleshoot, and repair (if possible) electronically commutated motors.
- Identify the common, start, and run terminals of a single-phase compressor motor.

Chapter 10: Components for Electric Motors

- Identify and explain the operation of motor starting relays and other starting components that are used on single-phase hermetic compressor motors.
- Select the correct potential relay for an application with information available on the potential relay to be replaced.
- Troubleshoot and install motor starting relays on hermetic compressor motors.
- Lubricate and identify the types of bearings used in electric motors.
- Identify the type of motor drives used in industrial applications.
- Calculate the variables in a V-belt drive application to obtain the desired equipment rpm.
- Recognize and adjust a V-belt application to the proper tension and alignment.

Chapter 11: Contactors, Relays, and Overloads

- Explain the parts and operation of contactors and relays.
- Explain the application of contactors and relays in control systems.
- Correctly install a contactor or relay in a control system.
- Draw a simple schematic wiring diagram using contactors and/or relays to control loads in a control system.
- Understand the types and applications of overloads.
- Troubleshoot contactors and relays.
- Identify the common types of overload used to protect loads.
- Explain the operation of the common overloads.
- Determine the best type of overload for a specific application.
- Draw schematic wiring diagrams using the proper overload to protect loads.
- Troubleshoot common types of overloads.
- Explain the operation of a magnetic starter.
- Size the overload devices to be used in a magnetic starter for motor protection.
- Wire a magnetic starter using switches, thermostats, and push-button stations.
- Troubleshoot magnetic starter and push-button stations.

Chapter 12: Thermostats, Pressure Switches, and Other Electric Control Devices

- Explain the purpose of a transformer in a control circuit.
- Size a transformer for a control circuit.
- Troubleshoot and replace a transformer in a residential air-conditioning control circuit.
- Explain the basic function of a line- and low-voltage thermostat in a control system.
- Identify the common types of thermostats used in the industry.
- Draw schematic diagrams using the line- and low-voltage thermostats as operating and safety controls.
- Install line- and low-voltage thermostats on heating, cooling, and refrigeration equipment.
- Correctly set the heating anticipators and cooling anticipators, if adjustable, on a residential low-voltage control system.
- Explain the modes of operation and be able to correctly set or program a clock thermostat.
- Explain the function and operation of pressure switches.
- Install and correctly set the pressure switches in control systems used as operating and safety controls.
- Troubleshoot pressure switches.
- Understand, install, and troubleshoot the following controls in control systems used in the industry: (1) humidistats, (2) oil safety switches, (3) time-delay relays, (4) time clocks, and (5) solenoid valves.

Chapter 13: Electronic Control Devices

- Identify and describe the operation of basic electronic system components.
- Identify and describe the operation of common one-function electronic controls.
- Troubleshoot one-function electronic controls.
- Explain the function of an electronic defrosts board used in a heat pump.
- Explain the function of an electronic ignition control used in gas furnaces.

Chapter 14: Heating Control Devices

- Explain the purpose of the electrical controls in warm-air and hydronic heating applications that are necessary to safely operate and maintain the desired temperature in a conditioned space.
- Describe the pilot safety controls and the methods of ignition of the burners in a gas furnace.
- Describe the operation of primary controls used to supervise the operation of an oil burner.
- Draw a wiring diagram of an oil-fired, warm-air furnace.
- Draw a wiring diagram of a gas-fired, warm-air furnace.
- Explain the operation of an electric furnace or electric resistance duct heaters and the methods of control that are in common use.
- Draw a wiring diagram of an electric furnace.
- Troubleshoot a gas furnace.
- Troubleshoot an oil furnace.
- Troubleshoot an electric furnace or electric resistance duct heaters.

Chapter 15: Troubleshooting Electric Control Devices

- Troubleshoot electric motors.
- Troubleshoot contactors and relays.
- Troubleshoot overloads.
- Troubleshoot thermostats.
- Troubleshoot pressure switches.
- Troubleshoot transformers.
- Troubleshoot electric heating controls.
- Troubleshoot gas heating controls.
- Troubleshoot oil heating controls.

Chapter 16: Residential Air-Conditioning Control Systems

- Understand how major loads are controlled in residential air-conditioning systems.
- Understand how safety controls are utilized in residential air-conditioning systems to protect the equipment.
- Understand residential air-conditioning control systems.

- Understand residential furnace control systems.
- Understand residential heat pump control systems.
- Understand the types of equipment (configuration) that is used in the heating and air-conditioning industry.
- Explain where each type of air-conditioning equipment (packaged and split systems) is used.
- Explain the sequence of operation of a residential packaged air-conditioning unit.
- Explain the sequence of operation of a residential split air-conditioning system with a fan coil unit.
- Explain the sequence of operation of a residential split air-conditioning system with a furnace.
- Explain the sequence of operation of a residential heat pump.
- Make all electrical connections for a complete packaged unit installation.
- Make all electrical connections for a complete condensing unit and furnace installation.
- Check, test, and start a completed residential air-conditioning installation.
- Explain why customer relations are important to the technician and company.

Chapter 17: Commercial and Industrial Air-Conditioning Control Systems

- Understand basic commercial and industrial control circuitry, including the compressor, evaporator fan motor, condenser fan motor, and safety control circuits.
- Understand control circuits that are used in commercial and industrial equipment like specialized compressor motor circuits, water chiller controls, component interlocks, anti-short-cycling devices, and others.
- Understand the basic circuitry of control systems used on light commercial and commercial and industrial applications.
- Identify the methods of control for commercial and industrial systems.
- Describe the control loop as it relates to the control circuitry.
- Explain a basic pneumatic control system.
- Explain a direct digital control system.

Chapter 18: Troubleshooting Modern Refrigeration, Heating, and Air-Conditioning Control Circuitry and Systems

- Use the proper safety procedures when troubleshooting HVAC control systems.
- Determine and use the correct electrical instrument to check the electrical characteristics (potential, current, and resistance) in an HVAC electrical system.
- Troubleshoot any electrical component in an HVAC electrical system.
- Isolate electrical circuits that are operating incorrectly by reading electrical wiring diagrams and using electrical meters.
- Troubleshoot a line voltage control system.

- Troubleshoot a residential packaged unit.
- Troubleshoot a residential gas heating and electric air-conditioning split system.
- Troubleshoot a heat pump.

Introduction to Solar Power Heating (Trainer)

- Safety
- Operation
- Recirculate Freeze Protection
- Troubleshooting
- Switches
- Thermostat
- Primary Fuse

Text and Supplies

Text

Russell E. Smith, *Electricity for Refrigeration, Heating, and Air Conditioning 9th Edition*, Delmar/Cengage Learning, 2015, ISBN: 9781285179988

Lab Computer Requirements

PC

- Operating System: Windows XP w/ SP3, Vista w/ SP1, 7
- Hard Drive Space: 200MB
- Screen resolution: 1024 x 768 pixels
- 8x CD-ROM or DVD-ROM drive
- Sound card and listening device required for audio features
- An Internet connection, Firefox 4 or Internet Explorer 8/9 for Internet-based content
- Office 2007/2010 with all Service Packs or updated Office viewers

Mac

- Operating System: Mac OS X 10.5, 10.6
- Microsoft Office® 2008 (for viewing files) with all service packs
- Hard Drive Space: 200 MB
- Minimum Screen Resolution: 1024 x 768 pixels
- 8x CD-ROM or DVD-ROM drive
- Listening device required for audio features
- An Internet connection, Firefox 4 or Safari 5 for Internet-based content

Minimum Equipment Tools

- Screwdriver
- Phillips
- Multi-volt/amp meter with MFD reader and thermistor

Method of Evaluating Students	<u>% of Final Grade</u>
Quizzes and Tests (4 or more)	35%
Labs (6 or more)	25%
Attendance / Online	10%
Cumulative Final (Last week)	30%

COURSE ATTENDANCE AND TARDIES

15% of a student's overall grade will be lowered once 3 absences are reached. Upon reaching the fourth absence the student overall grade will be an "F", at this point the student has missed approximately 25% or more of the course. The student will be required to retake the course.

Quizzes & Tests

There are "NO" retaking of missed exams.

Methods of Instruction

Methods of instruction include lecture, discussion, demonstration, student performance, and research.

The student is required to read online textbook assignments, perform applied arithmetic and mathematical operations, listen, participate, and write notes. Student learning increases when the student inner acts during classroom discussions.

Instructional aids include related lab equipment, presentations, transparencies, computer systems, multimedia instructional packages, and product cutaways.

Course & Instructor Policies

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance, and an attitude that seeks to take full advantage of the educational opportunity. Each student must have a current

textbook or E-Book as required in the course. The classroom instructor will provide text requirements during the first class period orientation. Each student must obtain personal hand tools as required in the course. The classroom instructor will provide tool lists and obtainment dates during the first class period orientation.

Students will not be allowed to participate in lab functions without personal hand tools. Student cell phones will not be used by students during lectures, no exception! Please program all pagers and cell phones to the “silent” mode and put away during class lecture periods.

Due to the hazardous nature of your career training, safety is a priority. Horseplay and any conduct that might jeopardize your safety or others around you are prohibited. When using torches, soldering, sawing, filing, using the hammer, etc., gloves and safety glasses will be worn by the student. When using refrigerant or other pressurized substances, the student will wear safety glasses and gloves.

Grayson County College has policies governing possession and use of narcotics, alcohol and hallucinatory drugs. These policies will be strictly enforced. Non-compliance with the above-listed policies will be grounds for administrative withdrawal from the HART program.

Class Attendance Academic success is closely associated with regular classroom attendance and course participation. All successful students, whether on campus or online, are expected to be highly self-motivated. All students are required to participate in courses regularly and are obliged to participate in in-class activities and complete and submit assignments following their professors’ instructions.

Responsibility for work missed because of illness or school business is placed upon the student and acceptance of late work is at the discretion of the instructor.

In accordance with the College’s Developmental Education Plan, students withdrawing from their only developmental course may be withdrawn from all academic courses. In addition, students’ eligibility to receive financial aid or live in a college dormitory can be affected by withdrawal from courses. When administrative withdrawal occurs, any tuition refund would be made in accordance with state regulations. Withdrawal from Class The administration of this institution has set deadlines for withdrawal from any college-level courses. These dates and times are published in that semester’s schedule of classes. Administrative procedures must be followed. It is the student’s responsibility to handle student-initiated withdrawal requirements from any class. You must do the proper paperwork to ensure that you will not receive a final grade of “F” in a course if you choose not to attend the class once you are enrolled (see GCC College Catalog for details).

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity

of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic Dishonesty, any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give an unfair advantage to a student or the attempt to commit such acts. Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the college's policy on plagiarism (see GCC Student Handbook for details). Grayson County College subscribes to turnitin.com, which allows faculty to search the web and identify the plagiarized material. The instructors of this department do not condone and highly discourage any of the above activities. If caught in the act, the following actions may be taken: -

- **First offense:** The removal of the assignment from the student(s) and a Zero for the assignment with no chance to make up.
- **Second offense:** The removal of the student(s) from the class with a failing grade for the course.
- **Copyright Notice** The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials, including music and software. Copying, displaying, reproducing, or distributing copyrighted works may infringe the copyright owner's rights and such infringement is subject to appropriate disciplinary action as well as criminal penalties provided by federal law. Usage of such material is only appropriate when that usage constitutes "fair use" under the Copyright Act.

COVID-19 Syllabus Information

Grayson College continues to monitor the evolving COVID-19 situation and align our college planning with guidance from the local and state health officials. Our primary goal is to protect the health and safety of our students, faculty, staff, and the Grayson community, while delivering quality education. We will continue to communicate as more information becomes available. Safety requirements for students, faculty, staff, and the general public will be posted and kept current, so please stay tuned to your Viking email and the COVID 19 page on the Grayson College website for additional information or other changes that may be announced.

Grayson College COVID-19 Safety Protocol

The best way to prevent illness is to avoid being exposed to this virus. However, as a reminder, the Centers for Disease Control and Prevention (CDC) always recommends everyday

preventive actions to
help prevent the spread of respiratory diseases, including:

- Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing. If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol.
- Always wash hands with soap and water if your hands are visibly dirty.

Information about hand-washing, see CDC's Hand-washing website.

- Avoid touching your eyes, nose, and mouth.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Avoid close contact with people who are sick.
- Stay home when you are sick.

Grayson College COVID-19 Instructional Guidelines

Grayson College continues to monitor information relating to the COVID-19 Pandemic. The

College has taken steps to ensure that as many of our programs/courses can continue in the

event that the College must re-institute partial and/or full campus closure to the public. Quality

education will be moved to a remote delivery format, when feasible, which includes one or more

of the following methods:

- Live Streaming instruction (synchronous)
- Recorded instruction (asynchronous)
- Online or web activities using the Canvas platform
- Video capture, both live and recorded sessions
- Use of open educational resources (OER) in place of traditional textbooks

Grayson College COVID-19 Lab Safety Protocol

In accordance with the Texas Department of Health and Human Services, Grayson College will

follow these guidelines:

Groups of 9 or less may be scheduled for small group labs, where hands-on skills are necessary

to be practiced or demonstrated

DMW 5.5.20

Social distancing will be practiced to reduce the risk of transferring germs

Faculty and students will be screened prior to entering a lab or classroom, which will include:

- o Taking each person's temperature
- o Asking CDC-standard questions

All persons will wash hands with soap and water upon admittance
Students and faculty will participate in sanitation and cleaning of equipment and workspace at the conclusion of each session

Students are encouraged to:

- Log in to Canvas and communicate with your faculty as needed.
- Study and complete assignments in a timely manner
- Ask questions along the way

Student Responsibility

You have already made the decision to go to college; now the follow-up decisions on whether to commit to doing the work could very well determine whether you end up working at a good paying job in a field you enjoy or working at minimum wage for the rest of your life. Education involves a partnership that requires both students and instructors to do their parts. By entering into this partnership, you have a responsibility to show up for class, do the assignments and reading, be engaged and pay attention in class, follow directions, and put your best effort into it. You will get out of your experience here exactly what you put into it – nothing more and nothing less

TITLE IX

GC policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status.

Furthermore, Title IX prohibits sex discrimination to include sexual misconduct: sexual violence (sexual assault, rape), sexual harassment and retaliation.

For more information on Title IX, please contact:

- Molly M. Harris, Title IX Coordinator (903)463-8714
- Logan Maxwell, Title IX Deputy Coordinator - South Campus (903) 415-2646
- Mike McBrayer, Title IX Deputy Coordinator - Main Campus (903) 463-8753
- Website: <http://www.grayson.edu/campus-life/campus-police/> (Links to an external site.)title (Links to an external site.)- (Links to an external site.)ix (Links to an external site.)-policies.html (Links to an external site.)
- GC Police Department: (903) 463-8777- Main Campus) (903-415-2501 - South Campus)
- GC Counseling Center: (903) 463-8730
- For Any On-campus Emergencies: 911

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Grayson College campus-wide student policies may be found on our Current Student Page on our website: <http://grayson.edu/current-students/index.html> (Links to an external site.)

Financial Aid Effective July 1, 2000, students receiving Title IV funds (Pell, Federal Grants, and Student Loans), who subsequently withdraw from classes, will be required to return a portion of the federal financial aid received. Only the percentage of aid earned (determined by the percentage of time attended) will be eligible for retention on the student's behalf. Any aid that is not earned must be returned to its source. If there is a student account balance resulting from these adjustments, the student is responsible for payment. Further details can be obtained from the Office of Financial Aid. Drop Rule Under section 51.907 of the Texas Education Code, "an institution of higher education may not permit a student to drop more than six courses, including any course a transfer student has dropped at another institution of higher education." This statute was enacted by the State of Texas in spring 2007 and applies to students who enroll in a public institution of higher education as first-time freshmen in fall 2007 or later. Any course that a student drops is counted toward the six-course limit if (1) the student drops a course after census date or (2) the student is not dropping the course in order to withdraw from the institution. Some exemptions for a good cause could allow a student to drop a course without having it counted toward this limit, but it is the responsibility of the student to establish that good cause before the drop. Students with questions should contact the Counseling Office or the Office of Admissions & Records for more information before dropping a course!

Grayson County College is not responsible for illness/injury that occurs during the normal course of classroom/lab/clinical experiences. These descriptions and timelines are subject to change at the discretion of the Professor.

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**** Grayson College campus-wide student policies may be found at the following URL on the College website: <https://www.grayson.edu/currentstudents/Academic%20Resources/index.html>**