**Hill College**

**112 Lamar Drive**

**Hillsboro, Texas 76645**

**COURSE SYLLABUS**

**Course Prefix and Number Course Title**

BIOL 1111 **Section:** 01 WC **Semester:** Fall2022 Botany lab

**Instructor:** Dr. Lori Rose

**Contact:** lrose@hillcollege.edu, 817-760-5892

**Catalog Description:**

BIOL 1111 General Botany (lab) This laboratory-based course accompanies Biology 1411, General Botany. Laboratory activities will reinforce fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. (This course is intended for science majors.)

The course can be used to fulfill core requirements for graduation and/or transfer to senior institutions.

Lab Hours: 3 Semester Hours: 1

Co-requisites: Biology 1411 (see Biol 1411 course syllabus for details)

Pre-requisites: (see Biol 1411 course syllabus for details)

Introduction and Purpose:

The purpose of this course is to prepare the science major for further study in sciences and health fields and to meet the general education requirements for a laboratory science. The course can be used to fulfill core requirements for graduation and/or transfer to senior institutions.

Instructional Materials:

See lecture syllabus. You must purchase Herb Mentor online site membership. https://learningherbs.com/herbmentor-old/herb-school-registration/

Supplies & Materials:

You will be required to buy a large amount of materials for this lab. Most of these can be purchased online through Mountain Rose Herbs using your Herb Mentor discount (see Herb Mentor for specific instructions on how to do that correctly). You can also purchase the herbal materials as a complete box from the Family Nutrition Center in Cleburne, Texas at a 10% discount for HWP students for $132.83 + free shipping (note: this is not ALL of the lab required materials; just the herb part of the medicine making materials). Locals can go to the store for purchase. Non-locals can call and have it shipped. The number for Family Nutrition Center (FNC) is 817-645-1993 or 682-429-9141 (this is her personal cell; do not abuse it). Ask for Katie/Kathy.

Usually where cost is an issue, there are more common ingredients you can use.  You can also find a classmate/s close to you and do labs as a group to share costs (but you must still submit your own answers and do your own work; you can just split the cost of materials to do the actual lab activities as a group).  But you will still spend money for this lab. You will also buy alcohol for many medicine-making labs.  You will need an of-age person to obtain that for you. It is a medicine making and gardening course, and you can't make medicine or garden without materials.

See below list of materials required for lab

Objectives/Student Learning Outcomes:

At the completion of this course, students should be able to:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.

2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.

3. Communicate effectively the results of scientific investigations.

4. Compare and contrast the structures, reproduction, and characteristics of plants, algae, and fungi.

5. Describe the characteristics of life and the basic properties of substances needed for life.

6. Identify the principles of inheritance and solve classical genetic problems.

7. Describe phylogenetic relationships and classification schemes.

8. Identify the major phyla of life with an emphasis on plants, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.

9. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.

10. Identify the substrates, products, and important chemical pathways in photosynthesis and respiration.

11. Describe the unity and diversity of plants and the evidence for evolution through natural selection.

12. Compare different sexual and asexual life cycles noting their adaptive advantages.

13. Describe the reasoning processes applied to scientific investigations and thinking.

Method of Instruction:

This course will be taught face-to-face and/or by various distance learning delivery methods, and will include hands-on lab experiments including a self-designed at-home lab experiment and written report.

Audio-visual materials and computer-based technology will be used when appropriate. Students will be shown how to use a calculator where appropriate.

Methods of Evaluation:

Grades in this course will be based on the following evaluative criteria:

The final lab grade is 25% of the Biology 1411 grade.

The lab grade is based out of 1000 points (see detailed breakdown at end of syllabus):

* 550 points for completion and participation in labs, including completing plant ID journal pages, medicine making activities, plant walks, and seed starting/transplanting/propagation activities
* 250 points total for a written lab report (100 points), including editing (50 points) and a poster presentation (100 points)
* 200 points for an herbarium “practical”

Letter grades for the course will not be given, as the lab grade is factored into the Biology 1411 total grade. A total grade for Biology 1411 will be based on the following percentages:

90-100% A

80-89% B

70-79% C

60-69% D

Below 60% F

**\*Do not use Schoology grade totals to calculate grades. Use Schoology gradebook to see individual grades/missing grades, then use the syllabus percentages above to calculate grades.**

Course Policies

Student conduct outlined in the policy manual (found here: <https://pol.tasb.org/Policy/Section/649?filter=F> ) will be enforced in this class. The complaint process is described in the policy manual. Plagiarism is described in the policy manual. You can also read more about student conduct in the Student Handbook <https://www.hillcollege.edu/CampusLife/Student%20Handbook%202021-2022%20BOR%20approved.pdf> See below for more details **after reading the policy manual**.

Attendance Policy

To be considered “attending” in this course, students must successfully complete 100% of the Week 1 folder by the Census date (see calendar below). If you do not complete 100% of the Week 1 folder by the Census date, this may impact your eligibility for financial aid.

Plagiarism Policy

Plagiarism is claiming, indicating, or implying that the ideas, sentences, or words of another writer are your own; it includes having another writer do work claimed to be your own, copying the work of another and presenting it as your own, creating a document with another student and then submitting as your own, and/or following the work of another as a guide to ideas and expression that are then presented as your own. This includes word-for-word and/or paraphrasing plagiarism. **Working together on case studies, tests, quizzes, finals, and practicals is not allowed and is considered cheating.** **If students work together on other assignments, they must still turn in their own independent and unique work and follow the above Plagiarism policy**. An instructor should not be able to tell who worked together. **In this class, plagiarism will not be tolerated, and any acts of plagiarism will**

* **be given a 0 on the assignment,**
* **be reported, with the possible consequence of failure of the class and/or expulsion from Hill College.**

If you have any doubts if citation of other’s work is not done correctly and could be plagiarism, you are encouraged to seek advice.

Academic Dishonesty or Misconduct

Academic dishonesty or misconduct is not condoned nor tolerated at campuses within the Hill College System. Academic dishonesty is behavior in which a deliberately fraudulent misrepresentation is employed in an attempt to gain undeserved intellectual credit, either for oneself or for another. Academic misconduct is behavior that results in intellectual advantage obtained by violating specific standards, but without deliberate intent or use of fraudulent means. The student should review the relevant sections of the HCC Student Code of Conduct Policy Handbook.

Classroom Etiquette

Being an online classroom, follow these guidelines when deciding what to post publicly versus privately, as well as during conflict resolution.

1. **Be professional**. Online communication comes with a level of anonymity that doesn't exist in a typical face-to-face classroom, and can lead to disruptive or disrespectful behavior. The Holistic Wellness Program utilizes the Hill College Student Code of Conduct. You can find more information about the Code of Conduct here: <https://pol.tasb.org/Policy/Section/649?filter=F>

**According to this code of conduct, verbal abuse, insults, disorderly conduct, disruptive behavior, threats, harassment, false accusations, damage to one’s reputation, disregard for the well-being of others, and/or dishonesty will not be tolerated and will be reported.**

2. **Posting publicly or privately**. Attempt to find your answer before you ask a question. Refer to the syllabus, Weekly Instructions, notes, or lectures. If you can't find the answer, then consider to whom you should address the question:

(a) If the question can benefit the entire class, ask in Updates, an Assignment comment, a discussion board, or group email.

 (i) Confused about a due date – this can be a whole class question.

ii) Confused about a topic being discussed – this can be a whole class question.

(iii) Confused about general instructions on an assignment – this can be a whole class question.

(iiii) Want to discuss a health topic and the discussion could help everyone-this can be a whole class question.

(b) If the question is about a personal problem/issue, it should NEVER be discussed publicly. You need to email your instructor from within the LMS (Schoology) or your student webmail account.

(i) Confused about your personal grade – email your instructor with specific questions.

(ii) Personal issues or questions, or any conflict resolution – email your instructor.

 (iii) Questions that only pertain to you – email your instructor.

(iv) Personal information- What you share in an online classroom is part of a permanent digital record. It is good practice to guard your personal information; in fact, it is the law (FERPA – Family Education Rights and Privacy Act) to protect your personal protected information. Inappropriate public posts or those violating FERPA will be removed.

3. **Conflict Resolution**:

Whether a question is asked publicly or privately following the standards above, it should be asked from a place of kindness and curiosity with the goal of gaining understanding and resolution. Questions should not be combined with insults, blaming, shaming, rehashing past mistakes, etc. **According to the Hill College code of conduct, verbal abuse, insults, disorderly conduct, disruptive behavior, threats, harassment, false accusations, damage to one’s reputation, disregard for the well-being of others, and/or dishonesty will not be tolerated and will be reported.**

If there is a conflict that needs to be solved, you should first:

* Step away until you are calm and in a state of curiosity about the situation with the goal of reaching understanding and resolution as opposed to the goal of “winning” or figuring out “right vs wrong”
* Revisit the situation with the goal of assessing if you are assuming the best intentions of each person in the conflict.
* Revisit the situation with the goal of assessing if you projected an implication that was not clearly stated.

Often times, instructors will send private/public lengthy answers to questions in order to cover all bases/potential misunderstandings that have come up with previous students in the past in order for the answer to be as thorough as possible. Unless an instructor directly accuses you of something, assume the instructor was just being thorough.

Often times, instructors will send private/public quick, short answers in order to be efficient and answer you as quickly as possible. Unless an instructor directly accuses you of something, assume the instructor was just being efficient with their/your time.

Instructors are not required to answer emails after hours, on weekends, or on holidays/breaks. “Yes/no questions” may take up to a week to get a response from your instructor. When complex questions are asked that are not needing to be answered directly to complete course assignments, it will often take longer to get a response from your instructor. The HWP is as intense on instructors as it is on students. If it is taking a while to get a response, do not assume your instructor is ignoring you. Assume the best. Always. If you don’t get a response after two weeks, politely resend the question with a statement like “just making sure this didn’t get lost in the internet” or something similar with generous assumptions.

When you have followed the above actions, you should then email your instructor from a state of curiosity about the situation **with the goal of reaching understanding and resolution.**

What is ok:

* Privately addressing conflicts that arise in the program following the above thought process
* Assuming instructors/students are doing the best they can to support you

What is not ok:

* Ignoring conflicts and fostering resentment
* Handling conflict with shaming, blaming, insults, and negativity
* Handling conflicts publicly in Schoology
* Bringing up past resolved conflicts
* Assuming instructors/students are doing anything other than trying to support you in the best way they possibly can

If conflict cannot be resolved with your instructor, you should follow the chain of commands, in this order:

* Immediate Instructor
* Dr. Rose (if she is not your immediate instructor): lrose@hillcollege.edu
* Biology Program Coordinator: Lauri Heintz: lheintz@hillcollege.edu
* Dean of Instruction STEM: Dr. Alisa Carter: acarter@hillcollege.edu

Late Work Policy

Late work is a gift that requires excess mental work and inconvenience from your instructor. It is not required of an instructor to grant you access to late work. If you are gifted late work access from your instructor, you will not take advantage of it by asking for extensions on extensions. The date given for turning in late work IS the extension. Requests for extensions on already given extensions will be ignored and/or denied. If an instructor accepts extensions on some work but not others and that policy is stated, do not ask to turn in something late for an assignment that the instructor specifically says cannot be turned in late. Hill College grants Incompletes (I) for extenuating circumstances for students who have turned in all work throughout the semester, but need time to catch up in the last 2-3 weeks due to an emergency. If you take an I, you have until the end of the next long semester to complete your work or the I turns into an F. You cannot both turn in a semester’s worth of work by an extension AND ask for an I. It is one or the other. You either stay caught up and get the chance to take an I if you have an emergency, OR you have late work from the semester that you turn in by the late work due date; not both. Neither late work nor an I are guaranteed to be offered, even when requested by the student.

Study Groups

Working with other students for support and studying is encouraged. **If students work together, they must still turn in their own independent and unique work and follow the above Plagiarism policy**. An instructor should not be able to tell who worked together. **Working together on case studies, tests, quizzes, finals, and practicals is not allowed and is considered cheating.** Per the Student Handbook, academic dishonesty including cheating and plagiarism is not allowed.

If studying takes place in outside study groups, Hill College, the Holistic Wellness Pathway, and/or the Holistic Wellness Pathway instructors will not be held liable for the spread of, or following of, unsupervised health information not obtained from the Holistic Wellness Pathway course content. **It is recommended that only Holistic Wellness Pathway course content be discussed in outside study groups.**

Institutional Statement

Each student is responsible for being aware of the information contained in the HCC Catalog, HCC Student Handbook, HCC Student Code of Conduct Policy Handbook, and semester information listed in the Class Schedule.

Course Outline:

1. Science and the scientific method
2. Evolution
3. Cells and Energy
4. Building blocks of Life

E. Reproduction

F. Heredity

Disabilities/ADA

Reports of discrimination based on disability may be directed to the ADA/Section 504 coordinator.  The College District designates the following person to coordinate its efforts to comply with Title II of the Americans with Disabilities Act of 1990, as amended, which incorporates and expands the requirements of Section 504 of the Rehabilitation Act of 1973, as amended:

Name:           Lizza Trenkle

Position:       Vice President Student Services

Address:       112 Lamar Drive, Hillsboro, TX  76645

Telephone:  (254) 659-7601

Students with qualified and documented disabilities may request accommodations which will enable them to participate in and benefit from educational programs and activities.  Students should contact the Academic Advising and Success Center for more details at 254-659-7650 for Hill County Campus, 817-760-5650 for Johnson County Campus, or 817-295-7392 for Burleson Center.

Title IX

Reports of discrimination based on sex, including sexual harassment or gender-based harassment, may be directed to the Title IX Coordinator.  The College District designates the following person to coordinate its efforts to comply with Title IX of the Education Amendments of 1972, as amended, and related state and federal laws:

Name:          Jamie Jaska

Position:       Director of Human Resources

Address:       112 Lamar Drive, Hillsboro, TX  76645

Telephone:   (254) 659-7731

Email: jjaska@hillcollege.edu

Webpage: [TitleIXcontact (hillcollege.edu)](https://www.hillcollege.edu/Faculty_Staff/HR/Title9.html)

**Statement of Nondiscrimination:** The College District prohibits discrimination, including harassment, against any employee on the basis of sex. Retaliation against anyone involved in the complaint process is a violation of College District policy and is prohibited.

**The College District prohibits discrimination, including harassment, against any student on the basis of race, color, national origin, disability, religion, age, or any other basis prohibited by law. Retaliation against anyone involved in the complaint process is a violation of College District policy and is prohibited.**

(07/12/2022)

Required COVID statements:

*If Hill College campus operations are required to change because of health concerns related to the COVID-19 pandemic, it is possible that this course will move to a fully online delivery format. Should that be necessary, students will need to have access to a webcam and microphone for remote delivery of the class. Additionally, students will need to have access to:*

i. Internet access to Schoology

ii. Microsoft Word, Excel, and PowerPoint.

Instructor Content:

1111 Tentative Lab Schedule (materials required listed on next page)

**The Schoology gradebook is meant for communication only. Not all assignments will be listed in Schoology, but those assignments are still required. Not all assignments in Schoology are grade-affecting, but they are still required. Schoology grade totals are not your grade totals. You must read each weeks’ instructions within Schoology as well instructions in Updates and follow those instructions and grading rubrics to make sure you do all of the required assignments.**

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Herb Mentor  | Lab Title: | Other assignments |
| 1 | Lesson 6: 5min40sec | Phylogeny and Plant ID | Ways to study herbs |
| 2 | Parsley and Cashew | Plant cells, photosynthesis and respiration, ID | Dry vs. fresh infusions, diffusion experiment |
| 3 | Family: Aster and Rose | **Lab Report Overview,** ID, wildcrafting guidelines | **Lab Report question, hypothesis, variables due** |
| 4 | Family: Mint and Pea | Bacteria, Protists, and Fungi phylogeny, fermenting | Medicine making (mushrooms, tinctures, infusions), anti-microbial herbs, anti-pathogen protocols |
| 5 | Mustard and Nightshade | By-Week (work on monograph test) |  |
| 6 | Buttercup and Heath | Plant press, monograph guidance, 6 plant families ID |  |
| 7 | Buckwheat and Mallow | By-Week-School Garden\* date may change due to COVID |  |
| 8 | Borage and Figwort | Plant secondary metabolites, energetics, and biochemistry | Tinctures, oils, vinegars, pastilles, extract experiment **Lab report statistics due** |
| 9 | Family: Lily and Orchid | Seed starting, plant walk |  |
| 10 | Family: Grass and Cactus | Salves, 6 plant family ID |  |
| 11 | Family: Leftovers 1-2 | **Lab Report Peer Review,** ID, Herbal Safety | **Lab report rough draft due**Seed saving |
| 12 | Leftovers 3 and Maple | ID, Advanced medicine making | Percolation/blender tinctures, combo syrups, combo tea/decoction, advanced oils, hydrosols**\*\*\*Final Lab Report Due\*\*\*** |
| 13 | Walnut, Elm, Pine, Cedar | GMPs and FDA regulations with Suchil Coffman |  |
| 14 | Willow; Birch | Leftovers 3 and Tree plant ID, seedling transplanting, plant walk | **Poster template due** |
| 15 |  | **Final Exam due**, Plant walk |  |
| TBD |  | **Lab Report Poster Session,** **Via Zoom** |  |

\*\*\*Please note that this lab schedule is tentative and subject to change due to a number of factors including the progress of the lecture course, weather, illness, availability of supplies, etc. Please always check Schoology and your Hill College student e-mail account for information on schedule changes.

|  |  |
| --- | --- |
| Lab Title: | Supplies required |
| General | At least 2 sauce pansMeasuring cups and spoons of all sizesQuart, pint, and 4oz sized mason jarsSmallest hole-sized strainer (tea strainer, not pasta strainer), but large in volume to hold ounces of herbsMaybe funnelsMaybe muslin/cheese clothOptional: 1oz and/or 2oz tincture bottles from MRH or FNCOptional: salve tins from MRH or FNC |
| Plant cells | Diffusion experiment:* Distilled water, 1 quart
* 3 ounces of a dried nutritive herb: (nettles, oatstraw, alfalfa, viola, mullein, chickweed, or burdock)
* Optional: TDS meter from amazon (cheap ones work fine)
* Quart or pint sized mason jars
 |
| Bacteria, Protists, and Fungi phylogeny, fermenting | Medicine making (mushrooms, tinctures, infusions), anti-microbial herbs, anti-pathogen protocols:* 1 head of green or purple cabbage
* Himalayan or sea salt, 2 TB
* Purified water, 1 quart
* Medicinal mushrooms, 5 oz total mix (shiitake, maitake, cordyceps, reishi, lion’s mane, and/or turkey tail)
* ¾ cup Maple syrup, 2 TB cinnamon, 2.5 tsp cardamom, 1 pint honey
* Three (at least) different pre-made immune-specific tinctures, smallest size (Echinacea, olive leaf, prickly ash, Oregon grape, goldenseal, boneset, elderberry, elderflower, usnea, spilanthes, walnut, and/or artemesia)
* Bulk immune-specific herbs (at least 3) for tincture making, amount is up to you, ½ oz each is plenty (Echinacea, olive leaf, prickly ash, Oregon grape, goldenseal, boneset, elderberry, elderflower, usnea, spilanthes, walnut, and/or artemesia)
* Powdered thyme, sage, and/or oregano, ½ cup total
* Drinking alcohol, at least 1500 ml (Mushroom recipe, Tincture Making)
* Quart, pint, and/or 4oz sized mason jars
* Optional: 1 or 2 oz tincture bottles from MRH or FNC
 |
| Plant press | * Cardboard
* Paper
* Rubberbands
 |
| Plant secondary metabolites, energetics, and biochemistry | Tinctures, oils, vinegars, pastilles, extract experiment:* Bulk plantain, comfrey, and/or calendula, at least 1 oz total but can get more for herbal oil making
* Oil (olive, almond, or avocado)-twice the volume of the above bulk herb purchased
* Ingredients from bitters recipe: 1 orange, 1 vanilla bean, 10g dandelion or chicory root, 20g elecampane root, 3 cloves, 10g fresh ginger, 5g licorice root, 3g peppercorn
* Powdered rose hips, amla, and acerola, amount is up to you, but equal parts each; ½ oz each is fine for activity
* Bulk marshmallow root, 4oz
* Bulk cinnamon, 5 TB or 5 sticks is plenty
* Bulk bee balm or oregano, ¼-1/2 cup is plenty
* Honey, at least 2pints
* Apple cider vinegar, 1 pint
* Drinking alcohol, at least 1 quart (Bitters)
* Quart, pint, and/or 4oz mason jars
* Optional: tincture bottles from MRH or FNC
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| Seed starting | * Compost, 1 bag
* Coconut fiber/coir, 1 bag
* Worm castings, 1 bag
* Azomite (optional)
* Mycorhizal fungi (optional)
* T5 6500K UV grow light station (optional, Amazon)
* Heat seed starting mats (optional, Amazon)
* Medicinal herb seeds (MRH for discount)
* Empty seed trays/containers
 |
| Salves | * Herb infused oil from previous lab
* Beeswax, 1oz for every cup herb infused oil from previous lab
* 4oz mason jars
* Optional: salve tins from MRH or FNC
 |
| Advanced medicine making | Choose one of the following:* Bulk elderberries, honey, drinking alcohol
* Bulk calendula and olive/almond/avocado oil, coffee grinder
* Fresh lavender and olive/almond/avocado oil
* Rose petals, fresh
 |
| Asexual reproduction and propagation | * Celery, lettuce, carrot, and/or green onion, whole
 |

Lab grading criteria, 25% of 1411 class grade:

 1000 total points

 Regular Labs 50 points each (550 points total)

Lab points will come from watching videos of the lab class, and completing plant ID journals, medicine making activities, plant walk ID activities, and plant seed starting/transplanting/propagation activities.

 Report 250 points

Each student will come up with their own question to answer using the scientific method of experimentation outside of class. A scientific report and poster presentation will be used to report the findings. This is your opportunity to be creative and fulfill a curiosity of your own relating to the natural world! Make it fun and over something you find interesting (relating to plant medince)! Students may use suggested experiment topics or choose their own. Each student’s chosen experiment must be pre-approved by me, including the experiment set-up. The points for the experiment will come from the following: 50 points for peer review editing of your rough draft (see the 1111 Schoology course in the Lab Report Instructions folder); 100 points for the written report of findings (grading rubric on lab Schoology); 100 points for the poster conference presentation on TBD via Zoom online (grading rubric on lab Schoology). You must make plans to attend the Zoom live poster conference or, if you can’t make the group time, arrange a time to present your poster to me via Zoom.

Content of the written report must follow the guidance of the “Lab Report Instructions” document on the lab Schoology. Also, there are links on Schoology for guidance on the report. Late reports will not be accepted and will receive a “0”.

Practical herbarium 200 points

An herbarium will be created with plants you wildcraft locally after learning how to ID multiple plant families in lab. You will create this as you go throughout the semester, and turn in the finished product at the end of the semester.



\*Drops for non pay are now on Aug 30 and Sept 8

**REQUIRED 1111 SIGNED SYLLABUS ACKNOWLEDGEMENT**

* **I have read the BIOL 1111 syllabus**
* **I understand that I am required to make herbal medicine and purchase those supplies for this course.**
* **I have read and understand the Hill College code of conduct in the policy manual.**  **I understand that I am responsible for my behavior and will be held accountable for my actions. My lack of knowledge concerning specific policies will NOT be an excuse for breaking any Hill College policies, or any state or federal laws.**
* **I have read and understand the late work policy in the BIOL 1111 syllabus**
* **I have read and understand the plagiarism policy in the BIOL 1111 syllabus**
* **I have read and understand the classroom etiquette policy in the BIOL 1111 syllabus**
* **I have read and understand the study group policy in the BIOL 1111 syllabus**
* **I understand the Schoology gradebook is meant for communication only. Not all assignments will be listed in Schoology, but those assignments are still required. Not all assignments in Schoology are grade-affecting, but they are still required. Schoology grade totals are not my grade totals. I must read each weeks’ instructions within Schoology as well instructions in Updates and follow those instructions and grading rubrics to make sure I do all of my required assignments.**
* **I understand I must check all boxes, sign with a pen, date with a pen, and submit this page to the Schoology submission tab for BIOL 1111.**

**Signature Date**