The Degenerate States this week deals with something behaviorist call functional fixedness. The classic experiment of functional fixedness was constructed by Duncker in 1945. Subjects were given a candle, matches and a box of tacks (as shown in the figure) and he asked them to attach the candle to the wall so that it did not drip onto the table below. Duncker found that participants tried to tack the candle directly to the wall or to glue it to the wall by melting it. Very few of the participants were able to solve this puzzle. The experiment was recently repeated at Stanford, and only 23% of the students were able to solve the puzzle. [Make your solution now to this problem. The answer is given in the next paragraph.]

Of course the solution is to use the tack box as a candle-holder and tack it to the wall (as shown in the lower figure). In Duncker's terms the participants were "fixated" on the box's normal function of holding tacks and could not re-conceptualize it in a manner that allowed them to solve the problem. This was further reinforced when Adamson in 1952 replicated the Duncker experiment, but presented the tacks outside the box and an empty box. In this case, most of the subjects could solve the problem.

Functional fixedness prevents science students from taking concepts learned in solving specific problems and using those concepts to solve different sorts of problems. Thus, after lecturing for nearly an hour about how gravity constantly accelerates a falling object, my students were absolutely unable to understand why a ball rolling down an incline was also constantly accelerating. Even though they could acknowledge that gravity had not changed, the object was no longer in free-fall, therefore to them, the rules no longer applied! There are many reasons that our students have trouble learning. It is not always from not studying or being "stupid." Many times the students are caught by
functional fixedness – and we should not be so functionally fixed, ourselves, that we cannot recognize the wide range of problems that our students might have. --

Lou

Department News

Department Meeting – 12:30 PM on Friday 11 September
We will have a Department meeting in the Joint Conference Room (Pizza and Coke provided). We have a number of important issues. These include:

• Electing a new representative to Faculty Council
• Selecting someone to head up Preview Day on 14 November
• Nomination of additional GO advisors
• Discussions on the organization of Science Olympiad
• Finalizing the courses that are exempt from Credit by Challenge
• Discussion of what to do with obviously ill students in your classroom
• Further discussion of the University scholarship process
• JSU Affirmative action policy
• Heart Walk
• Credit hour production

Since several positions will be determined at this meeting, it is one that you do not want to miss! 😊

The Rapid Red Bus
Well, Tracy tried out the new campus busses. She was going to the Dean’s office at the Stone Center. So, she boarded the Red Bus just outside of Martin Hall. It took her 30 minutes to get to the Stone Center. Of course, she had to ride nearly the full circuit to get from here to there. The ride back was a rapid 3 minutes. She reported that the busses were clean, cool and nearly full with students. Each trip averaged out at 16 minutes—that’s not terrible.

University News

Free Parking! (yesterday)
Chief Shawn Giddy of the University Police Department, the Vice Presidents, and the President have agreed to provide all faculty, staff, students, and visitors amnesty for University parking citations issued for parking in the wrong zones between August 26, 2009, and September 9, 2009. This means that no charges will be brought on the individuals cited for parking in the wrong zones between the dates listed. The citations were written on Trustee Circle and Tredaway Avenue.
Individuals who have already paid their ticket for parking in the wrong zone will need to bring the parking ticket to the Bursar's office to receive a refund. Refund requests must be made by September 30, 2009, before close of business (4:30 p.m.). Beginning September 10, 2009, all parking rules and regulations will be fully enforced by the University Police Department without further amnesty.

Reception for New Faculty
All faculty and administrators are invited to a reception honoring Jacksonville State University's new faculty. This event is hosted by Academe, a group dedicated to promoting the achievements of faculty in the areas of teaching, scholarship, and service, and the Faculty Senate. The reception will be held on Tuesday, September 29, at 3:15 p.m. in 1101B, Houston Cole library. Please plan to attend to welcome our new faculty and to enjoy the refreshments and fellowship.

Charter Meeting of JSU Chapter of American Association of University Professors Set for September 29th
Faculty are invited to attend an informational meeting for initiating a local chapter of the American Association of University Professors. Dr. William Trimble, state AAUP president, and Dr. Larry Gerber, state AAUP secretary/treasurer, both of Auburn University, will be guest speakers. "The AAUP’s purpose is to advance academic freedom and shared governance, to define fundamental professional values and standards for higher education, and to ensure higher education’s contribution to the common good." The meeting will be in 316 Ramona Wood Hall on September 29 from 2 - 4 p.m.

Fall Enrollment of 9,351 is JSU's Second Highest
Jacksonville State University announced that enrollment reached 9,351, the second highest in the school’s history. This is a slight drop from last year, when the university boasted a record enrollment of 9,481. Although this year’s slight decrease is reflected throughout most of the University’s individual colleges, enrollment in the College of Nursing and Health Science actually increased this year by 64. Also up is the number of first-time graduate students, which increased by 6%. This, coupled with a 4% increase in the number of students taking distance-learning classes, could indicate a shift in the student body makeup as more students are returning to college for advanced degrees or taking online courses that can help them acquire more marketable skills while studying at their own pace. This fall, the student body is made up of 6,251 full-time and 3,100 part-time students. Nearly 64% are white, 28% are black or African American and 8% are of another ethnicity or unknown.
JSU to Administer Collegiate Learning Assessment
The Collegiate Learning Assessment (CLA) will be administered to 100 randomly selected first-year students beginning on September 12. One hundred seniors will also be asked to take the CLA in lieu of the College Basic Academic Subjects Examination (CBASE) as a graduation requirement in Spring 2010. Unlike CBASE, the CLA focuses on critical thinking, analytic reasoning, problem-solving and written communication skills. The assessment can take up to 90 minutes to complete and consists of two parts—performance tasks and analytic writing. A combination of computer and human scoring is used to measure student responses on eleven dimensions, including mechanics of writing, ability to draw conclusions, and analysis and synthesis of evidence.

All randomly selected first-time freshmen will receive an e-mail and a letter from President Meehan notifying them when their session will take place. All who participate will receive a JSU jump drive and a JSU book bag as a token of appreciation. The CLA will be administered online at campus computer labs.

Publications

A.B. Helms is a coauthor on Surface Studies of 2,4-Pentanedione on gamma Al2O3/NiAl (100) and NiAl(100). This manuscript has been accepted by Surface Science for publication. Congratulations Brent!

Student News

Career Services to Host Annual Fall Career Fair
Wednesday, October 7, from 10 a.m. to 2 p.m. in the Merrill Hall Atrium. All JSU students and alumni are encouraged to attend. To view a list of participating companies, please visit www.jsu.edu/careerservices. This list will be updated regularly. Attendees are encouraged to bring copies of their resumes, dress professionally and be prepared for interviewing onsite! Additional copies of your resume may be made in the JSU Print Shop (105 TMB) for $.05/each. Resume editing is available in Career Services. To schedule an appointment, please E-mail resumes@jsu.edu.
Degenerate States

What’s Normal?
During a visit to a psychiatric hospital, a visitor asked the Director the criteria by which they decided whether or not a patient should be institutionalized.
"Well," said the Director, "we fill up a bathtub. Then we offer a teaspoon, a teacup and a bucket to the patient and ask him or her to empty the bathtub."
"Oh, I understand," said the visitor. "A normal person would use the bucket because it's bigger than the spoon or the teacup."
"No." said the Director, "A normal person would pull the plug. Do you want a room with or without a view?"

Contact Details

If you have items of news or interest that you would like included in the Department of Physical and Earth Sciences newsletter, then contact Tracy Casey before noon on Thursday at; tscasey@jsu.edu or phone (256) 782-5232.