

The Department of Mining Engineering  
 College of Engineering and Mineral Resources  
 West Virginia University  
 Syllabus 2014

<b>Course:</b>	<b>MINE 425 Mineral Processing</b>
<b>Semester:</b>	2014 Spring Semesters
<b>Course Format:</b>	3 hr lecture
<b>Credit hours:</b>	3 cr hrs
<b>Prerequisites:</b>	Prerequisite: CHEM 115 and MATH 261. Conc.: MINE 427 and Corequisite: MINE 426
<b>Instructor:</b>	Dr. Felicia F. Peng Room 359F Mineral Resources Bldg. Phone: (304) 293-7680; email: <a href="mailto:ffpeng@mix.wvu.edu">ffpeng@mix.wvu.edu</a>
<b>Schedule:</b>	Tuesday 12:30 P.M. – 13:45 P.M. and 15:30-16:45 P.M.
<b>Location:</b>	Room 107 MRB
<b>Office Hours:</b>	Open door policy or by appointment
<b>Course objectives:</b>	To present the principles of mineral processing, and unit operations used in gravity separations, magnetic separations, and surface property based froth flotation separation methods to recovery valuable materials from metals and non-metals raw and ore materials.
<b>Expected Learning Outcomes:</b>	Upon successful completion of this course, the students will be <ol style="list-style-type: none"> <li>1. able to apply the knowledge of mathematic, science, and engineering in understanding the principles of physical and surface properties based separation methods for mineral and ore processing.</li> <li>2. an ability to identify, formulate and solve engineering problems., such as performing material balances for grinding-classifying and separation circuits.</li> <li>3. an ability to communicate effectively.</li> <li>4. Recognition of the need for, and an ability to engage in life-long learning.</li> <li>5. an ability to design and conduct experiments, as well as to analyze and interpret data through mineral processing lab.</li> <li>6. able to acquire the knowledge of contemporary issues.</li> <li>7. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.</li> <li>8. an ability to understand the professional and ethical responsibility.</li> <li>9. an ability to function on multi-disciplinary teams.</li> <li>10. an ability to design a system, component, or process to meet the desired needs.</li> </ol>
<b>Textbooks</b>	<ul style="list-style-type: none"> <li>• Fuerstenau, M. C., and Han, K. N., 2003, <i>Principles of Mineral Processing</i>, Society of Mining, Metallurgy and Exploration, Inc. (SME), Englewood, CO., 584 pp (F-H).</li> <li>• Wills, B. A., and Napier-Munn, T. J., 2006, <i>Mineral Processing Technology – Introduction to the practical aspects of ore treatment and mineral recovery</i>, 7th ed, Butterworth-Heinemann imprint of Elsevier, Oxford, UK, 444 pp (W-N).</li> </ul>

<b>References Book:</b>	Mineral Processing Handbook, SME, Englewood, CO.										
<b>Grading:</b>	<table border="1"> <tr> <td>Attendance</td> <td>5%</td> </tr> <tr> <td>Homework problem sets</td> <td>35%</td> </tr> <tr> <td>Exam 1(15%), Exam 2 (15%), Exam 3 (15%)</td> <td>45%</td> </tr> <tr> <td>Assigned project report</td> <td>15%</td> </tr> <tr> <td>Total</td> <td>100%</td> </tr> </table>	Attendance	5%	Homework problem sets	35%	Exam 1(15%), Exam 2 (15%), Exam 3 (15%)	45%	Assigned project report	15%	Total	100%
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<b>Grade Assignment:</b>	<p>&gt; 90            A</p> <p>&gt; 80            B</p> <p>&gt; 70            C</p> <p>&gt; 60            D</p> <p>=&lt; 60           F</p>										
<b>Attendance and grading Policy:</b>	<p>Notes:</p> <ul style="list-style-type: none"> <li>• No homework, no grade. Late homework and assigned project report will be accepted with a penalty of 20% per day.</li> <li>• If you receive less than 40/100 in your final exam, you will receive D or F.</li> <li>• Two percent of overall grade will be deducted for absence of each class.</li> <li>• No make-up exams. For excusable absence, the weight of missing exam will be added to that of next exam. For some reason you take the make-up Exam, the highest score for the make-up exam will be reduced to 70/100.</li> <li>• WVU policy will be followed and will be at the discretion of the instructor.</li> </ul>										
<b>Social Justice Statement:</b>	<p>“The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Accessibility Services (293-6700). For more information on West Virginia University's Diversity Equity, and Inclusion initiatives, please see <a href="http://diversity.wvu.edu">http://diversity.wvu.edu</a>.</p>										
<b>Days of Special Concern:</b>	<p>Days of Special Concern are listed in the Schedule of Courses. They may choose to excuse absences resulting from these observances. Alternatively, they may choose to cover all reasons for student absences with a blanket absence policy. Students who will miss an examination or a field trip due to a Day of Special Concern absence should notify their instructors at the beginning of the term. Faculty are instructed to make reasonable accommodation for students who miss scheduled exams or field trips as a result of such observance.</p>										
<b>Ethic:</b>	<p>Integrity, trustworthiness and responsibility are central to the development of mature individuals. Students are expected to adhere to and practice the Code of Conduct of WVU, and maintain the highest standards of academic and professional integrity. Work that is not of the student's own creation will receive no credit. Student's ignorance is no legitimate defense for academic dishonesty. Academic</p>										

	<p>dishonesty includes lying, cheating, stealing, and using unauthorized materials on any assignment, quiz or exam. Students shall refrain from using language or acting in a manner that is disrespectful/inappropriate towards other students and members of the WVU community. Sexual assault and harassment is inexcusable and shall result in disciplinary action in accordance with WVU policy. Students may not interrupt their classmates or professor, make fun of them, or disrupt the learning environment.</p> <p><b><u>Academic Honesty:</u></b>  Students are expected to conduct themselves in an ethical manner during this course. Cheating and Plagiarism will not be tolerated. Cheating in any way or form is unacceptable at WVU and may result in an F grade and disciplinary action, regardless of overall performance. See the Student Conduct Code at <a href="http://studentlife.wvu.edu/office_of_student_conduct/student_conduct_code/">http://studentlife.wvu.edu/office_of_student_conduct/student_conduct_code/</a></p>
<b>FE Examination and PE Professional Registration</b>	As part of the academic and professional development of young mining and Mineral Engineers, the Department of Mining Engineering encourages students to take the Fundamentals of Engineering (FE) exam and to them follow this by becoming registered as a Professional Engineer (PE).