

**Graduation Checksheet for the Bachelor of Science in Mining Engineering**  
**Department of Mining and Minerals Engineering**  
**College of Engineering**

**For Students Graduating in Calendar Year 2016**

**Freshman**

CHEM 1035: General Chemistry	3	_____
CHEM 1045: General Chemistry Laboratory	1	_____
ENGE 1024: Engineering Exploration*	2	_____
ENGE 1114 or ENGE 1104: Exploration of Engineering Design or Exploration of Digital Future*	2	_____
ENGL 1105-1106: Freshman English (Area 1)	3	_____
MATH 1205-1206: Calculus (Area 5)	3	_____
MATH 1114, 1224: Elementary Linear Algebra, Vector Geometry	2	_____
PHYS 2305: Foundations of Physics I (Area 4)	4	_____
Free Elective _____, _____	2	_____

33 hrs.

**Sophomore**

ENGE 2824: Civil Engineering Drawings and CAD	1	_____
ESM 2104, 2204: Statics, Mechanics of Deformable Bodies	3	_____
MATH 2224, 2214: Multivariable Calculus, Introduction to Differential Equations	3	_____
GEOS 1004: Physical Geology (Area 4)	3	_____
GEOS 1104: Physical Geology Laboratory (Area 4)	1	_____
MINE 2504: Introduction to Mining Engineering	3	_____
MINE 2514: Mining Surveying	1	_____
MINE 2524: Elements of Mine Design	3	_____
ESM 2304: Dynamics of Particles and Rigid Bodies	3	_____
Liberal Education Area 2 Elective _____	3	_____
Liberal Education Area 6 Elective _____	1	_____
Liberal Education Area 7 Elective _____	3	_____

34 hrs.

**Junior**

ESM 3024: Introduction to Fluid Mechanics	3	_____
ME 3114 or ME 3134: Engineering Thermodynamics or Fundamentals of Thermodynamics	3	_____
MINE 3504: Rock Mechanics and Ground Control	3	_____
MINE 3514: Rock Mechanics Laboratory (Area 1, ViEWS)	1	_____
MINE 3524: Excavation Engineering	3	_____
MINE 3534: Mineral Processing	2	_____
GEOS 3104 or GEOS 3404: Elementary Geophysics or Elements of Structural Geology	3	_____
MINE 3544: Mineral Processing Laboratory (Area 1, ViEWS)	1	_____
MINE 3554: Resource Recovery	2	_____
MINE 3564: Underground Mine Design	3	_____
MINE 3574: Surface Mine and Quarry Design	3	_____
MINE 3584: Ventilation Engineering	3	_____

30 hrs.

**Senior**

ECE 3054: Electrical Theory	3	_____
MINE 4504: Materials Handling and Power Systems	3	_____
MINE 4514: Health, Safety and Risk Management	3	_____
MINE 4524: Project Engineering and Mine Management	3	_____
MINE 4535-4536: Senior Design Project (Area 1, ViEWS)	1	_____
MINE 4544: Mine Reclamation and Environmental Management	3	_____
MINE 4554: Mining Engineering Leadership Seminar	1	_____
GEOS 4624: Mineral Deposits	3	_____
Liberal Education Area 2 Elective _____	3	_____
Liberal Education Area 3 Elective _____, _____	3	_____

31 hrs.

**A TOTAL OF 128 SEMESTER CREDITS AND AN IN-MAJOR (all MINE classes) AND OVERALL GPA OF 2.0 ARE REQUIRED FOR GRADUATION.**

*Foreign Language Requirement:* Students who did not complete 2 units of a foreign language in high school must earn 6 credit hours of a college level foreign language, such credits to be in addition to those normally required for graduation.

*Eligibility for Continued Enrollment:* Upon having attempted 72 hours (including transfer, advanced placement, advanced standing, and credit by examination), "satisfactory progress" toward a Bachelor of Science in Mining Engineering degree will include the following minimum criteria:

1. a grade point average of at least 2.0, and
2. passing grades in MINE 2504, MATH 2214 and MATH 2224.

*Restricted Major requirements:* In order to enter in this restricted major, students must have:

1. A competitive GPA.
2. Credit for MATH 1205, 1206, 1114, 1224; CHEM 1035, 1045; ENGL 1105, 1106; PHYS 2305.
3. Min grade of C- or better in ENGE 1024 and ENGE 1104/1114.

*Liberal Education Area 7 Elective:* If the Liberal Education Area 7 requirement is fulfilled with a course which double counts with another course on this checksheet, an additional three credit hour free elective must be completed.

*Statement on Hidden Prerequisites:* There are no hidden prerequisites for any course on this checksheet.

\* ENGE 1434 may be substituted for ENGE 1024 and ENGE 1104/1114.



College of Engineering

**Academic Affairs**

212 Hancock Hall (0275)  
Blacksburg, Virginia 24061  
540/231-3244 Fax: 540/231-1831  
E-mail: engris@vt.edu  
[http://www.eng.vt.edu/overview/acad\\_affairs.php](http://www.eng.vt.edu/overview/acad_affairs.php)

To: Engineering Undergraduates  
From: Bevelee Watford, Associate Dean, Academic Affairs  
Subject: Non-degree credit

DATE: June 2013

Please be aware that not all courses at Virginia Tech will count toward an undergraduate engineering degree. Such courses may not be used to satisfy any graduation requirement, including free electives. Listed below are courses which do not count toward an undergraduate engineering degree. This list is not exhaustive, so if you have any questions, you should check with your engineering department about additional non-credit courses. This list is updated periodically. Be sure to review the list each semester at: [http://www.eng.vt.edu/overview/acad\\_affairs\\_whatwedo.php](http://www.eng.vt.edu/overview/acad_affairs_whatwedo.php)

CS 1004 (Computer Literacy), (no credit awarded to CS majors for these courses: CS 4004, 4014)

UNIV or EDCI 1004 (College Success Strategies), 1014 (Cadet Success Seminar), 1704 (First Year Seminar Course), 2004 (Exploring Careers), 4974 (Independent Study), 2984 (Special Study: Any Subtitle), 4984 (Special Study: Any Subtitle)

EF/ENGE 2984 (Engineering Success Seminar)

ENGL 1004, 0014 (English as a Second Language)

ENGR 3004 Mentoring Seminar; ENGR 4984 (CEED Team Leader Seminar)

ESM 2984 (ESP Statics, Prof Dev Sem for ESM), ESM 4404 (Fundamentals of Professional Engineering)

FCD 2984 (Success Project)

HD 2984 (Healthy Living, Success Project)

MaSc 1024, 1025, 1026 (Mathematics, A Liberal Arts Approach), 1034 (Statistics, A Liberal Arts Approach), 1044 (Computer Science, A Liberal Arts Approach)

MATH 1504 (PreCalc), 2984 (Emerging Scholar), 1015 (Elem Calc with Trig. CS majors may receive 1015 credit if taken before 1205), 1016 (Elementary Calc with Trig), 1525-1526 (Elementary Calc with Matrices), 2015-2016 (Elementary Calc with Trig II)

ME 4984 (SAE Automotive Essentials)

PHYS 2205-2206 (General Physics, not Calc-based)

PSYC 2984 (First Year Experience, Athletic Transitions)

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