

IST 212 Energy 3 hours Section 101 CRN 2797 Tuesdays / Thursdays 2 - 3:15 p.m. Morrow 122

Course description: The course introduces the students to the properties and the interfaces of biological and physical systems with emphasis upon energy concepts, production, and distribution in both systems.

Instructor: Samuel T. Colvin      Office – 111 Morrow Library      Phone: (304) 696-5432

E- mail: [colvin8@marshall.edu](mailto:colvin8@marshall.edu) This is the only e-mail address to which I respond. Please do not send e-mails to any other address or through forums.

Because of the phone system, I can only return local phone calls and often cannot return some cell phone calls.

I strive to respond to phone calls and e-mails within 24 hours of receipt and will respond if at all possible. Students are encouraged to talk with me in person before class, after class or between scheduled classes. Questions can also be asked by email or phone message.

#### My Fall 2014 Schedule

##### Tuesdays

8:45 - 10:45 a.m. Office Morrow 111  
11 a.m. - 12:15 p.m. IST 220 Science 200  
12:30 - 1:45 p.m. IST 220 Science 200  
2 - 3:15 p.m. IST 212 Morrow 122  
3:30 - 7:50 p.m. IST 111 Science 200

##### Thursdays

8:45 - 10:45 a.m. Office Morrow 111  
11 a.m. - 12:15 p.m. IST 220 Science 200  
12:30 - 1:45 p.m. IST 220 Science 200  
2 - 3:15 p.m. IST 212 Morrow 122  
By advance appointment only: 3:15 - 5:15 p.m. - Office - I will not be in Morrow 111 unless a prior appointment is made.

##### Fridays

Noon - 1 p.m. Faculty Meeting every other week - 9/5, 9/19, 10/3, 10/17, 10/31, 11/14, 12/12

##### Policies

Plagiarism or cheating will result in no credit for that activity and may result in further University sanctions.

Work not in the prescribed format will be penalized, or at the discretion of the instructor not accepted for grading. MU Online will be the only acceptable vehicle for submission of work unless the instructor announces a different vehicle. Late submissions to MU Online will be accepted with penalty until the cutoff. After the cutoff, MU Online will not allow submissions. Please do not e-mail submissions to me because they do not then become part of the permanent record of the class.

Submissions will not be returned. Please keep copies of all work submitted.

No work received after the class ends will be graded.

Grades will be reported in MU Online allowing students to determine their grade status anytime, especially prior to course withdrawal deadlines and prior to the final. Assignments will be marked, graded and comments returned through MU Online within two weeks after the due date. It is the student's responsibility to check grades and comments (if any) to assure the proper receipt of and credit for assignments and labs. Final grades are based on the number of points earned out of 1,000. Only point calculations prepared by the instructor are official.

There is no extra credit, re-testing or scaling. At the end of the course, the instructor may, in his discretion, consider awarding extra points to a student less than five points (actual, not percentage) away from the next grade level provided that student has completed all assignments in a timely fashion.

Questions from students about the class may be asked in class or sent by e-mail to [colvin8@marshall.edu](mailto:colvin8@marshall.edu).

Due dates and assignments are subject to change. Due dates will only be moved back, not forward.

Below is the current University policy related to incompletes for courses. It will be strictly followed.

"Incomplete: The grade of I (incomplete) indicates that the student has completed three-quarters of the course, but cannot complete the course for a reason that accords with the university excused-absence policy. Students must be in good standing in the class prior to requesting an incomplete. The course instructor decides whether or not an incomplete will be granted and specifies in writing what work the student must complete to fulfill the course requirements. The student has until the end of the next fall or spring semester from the date of receipt of the incomplete grade in which to complete the course, or the instructor may establish an earlier deadline. If special circumstances exist, which prevent the student from completing the course in the prescribed time, the incomplete may be extended with approval of the instructor, the instructor's chair or division head, and the instructor's dean. If the student satisfactorily completes the course in the prescribed time he/she will receive a letter grade. If the student fails to complete the course requirements during the stipulated time, the grade of I changes to a grade of F."

- The Greenbook, Marshall University

Other University policies can be found at [http://www.marshall.edu/academic-affairs/?page\\_id=802](http://www.marshall.edu/academic-affairs/?page_id=802) (?page\_id=802, note underline between page and id) and will be followed. They include:

1. Academic Dishonesty
2. Excused Absence Policy for Undergraduates
3. University Computing Service Acceptable Use
4. Inclement Weather
5. Dead Week
6. Students with Disabilities
7. Academic Dismissal
8. Academic Forgiveness
9. Academic Probation and Suspension
10. Academic Rights and Responsibilities of Students
11. Affirmative Action
12. Sexual Harassment

Student support, resources and online tutorials are listed on MU Online. Please take advantage of that assistance as needed.

#### IST Software Store

The IST department maintains agreements with various software publishers to provide software for its computer labs as well as for its faculty, staff, and students. Students enrolled in IST department courses are eligible to receive a variety of software applications at no cost for use in their academic endeavors. This includes many of the same applications used in IST courses. You can find this information and more on the IST Web site at <http://www.marshall.edu/isat/software/>.

#### Accessing the Store

Students enrolled in this course will receive an email sent to their Marshall accounts containing information on accessing the store. Students will need to complete their account registration – which involves entering their name and setting a password – in order to browse and download the software. Once completed, students can use their individual accounts to “purchase” the applications. Purchasing an application will provide a license key and a link to download an installer.

Text - Energy Explained Volumes 1 and 2, Vikram Janardhan and Bob Fesmire 2011 Rowman and Littlefield ISBN 9781442203723 hardback 9781442203727 electronic

#### IST Program and Course Learning Outcomes and Traits

1. Students will demonstrate proficiency in the utilization of contemporary technologies or tools to solve real-world problems.
- A. Technology and Information Aptitude
- B. Problem-Solving and Decision-Making Skills

2. In the development of a research project, students will scientifically analyze data, evaluate and incorporate relevant research, and describe potential implications.
  - A. Interpretation and Analysis Skills
  - B. Critical Evaluation of Information and its Sources
  - C. Recognition and Understanding of Limitations and Implications
3. Students will effectively communicate in relating findings and recommendations resulting from projects.
  - A. Organization Skills
  - B. Use of Language, Mechanics, & Delivery
  - C. Use of Supporting Material

#### How Outcomes and Traits are Practiced and Assessed

Practiced	Assessed
1A texts, class activities, instructor modeling	exams, plans, analyses
1B texts, class activities, instructor modeling	exams, plans, analyses
2A texts, class activities, instructor modeling	exams, plans, analyses
2B texts, class activities, instructor modeling	exams, plans, analyses
2C texts, class activities, instructor modeling	exams, plans, analyses
3A texts, class activities, instructor modeling	exams, plans, analyses
3B texts, class activities, instructor modeling	exams, plans, analyses
3C texts, class activities, instructor modeling	exams, plans, analyses

Rubric for Grading Based on Outcomes – 1A demonstrate technological fluency, 1B develop two reliable strategies, 2A evaluate evidence, 2B analyze research literature, 2C identify limitations/implications, 3A submit well-structured product, 3B use proper language/mechanics/delivery, 3C use respected supporting material

#### Evaluation

Attendance and participation (minus 3 points for each unexcused absence)	100 points
Exam One	100 points
Exam Two	100 points
Perform personal energy audit and develop personal conservation plan	100 points
Analyze the future of fossil fuels	150 points
Analyze the future of renewable energy	150 points
Analyze the future of nuclear energy	100 points
Recommend a course of action related to energy for a U.S. state of your choice such as KY, OH or WV between now and the year 2025	100 points
Develop and evaluate U.S. energy plan for the year 2050	100 points
Total	1000 points

900 to 1000 points 90 - 100% A

800 to 899 points 80 - 89% B

700 to 799 points 70 - 79% C

600 to 699 points 60 - 69% D

599 points and below F

University Schedule - Fall 2014

8/25 Classes begin

8/29 Schedule adjustments end

9/1 Holiday - Labor Day

10/20 Fr/Soph mid term grades

10/31 Last day to drop individual course

11/24 - 28 Thanksgiving Break

12/1 - 6 Dead Week

12/5 Last day to completely withdraw

12/6 - 12 Exams

12/14 Commencement

#### Class Schedule

PLEASE NOTE: Assignments and their submission deadlines to MU Online and cutoff dates for submission are underlined, are detailed below and will be enforced. Late submissions to MU Online will be accepted with penalty until the cutoff. After the cutoff, MU Online will not allow submissions. If there is no submission properly received by the cutoff, no credit will be recorded for that assignment.

#### Exams in bold.

Week 1 8/26 syllabus, get acquainted 8/28 energy and energy for life

Week 2 9/2 Volume 1 - Preface Chapters 1, 2 9/4 V1 - 3, 4

Week 3 9/9 V1 - 5, 6 9/11 V1 - 7, 8

Week 4 9/16 V1 - 9, 10 9/18 V1 - 11

Week 5 9/23 V1 - 12 9/25 V1 - 14, 15

9/25 - Perform personal energy audit and develop personal conservation plan due to MU Online by 11:59 p.m.

Week 6 9/30 V1 - 16, 17 10/2 Volume 2 - Chapters 1, 2

10/2 **Exam One** (covering V1 – Chapters 1 -17 except 13)

Week 7 10/7 V2 - 3, 4 10/9 V2 - 5, 6

10/9 – Analysis of the future of fossil fuels due to MU Online by 11:59 p.m.

Week 8 10/14 V2 - 7, 8 10/16 V2 - 9, 10

Week 9 10/21 V2 - 11, 12 10/23 V2 - 13

Week 10 10/28 V2 - 14, 15 10/30 V2 - 16, 17

10/30 – Analysis of future of renewable energy due to MU Online by 11:59 p.m.

Week 11 11/4 V2 - 18, 19 11/6 V2 - 20, 21

11/6 – Analysis of the future of nuclear energy due to MU Online by 11:59 p.m.

Week 12 11/11 V2 - 22, 23 11/13 V2 - 24, Epilogue

11/13 - Recommended course of action related to energy for a U.S. state due to MU Online by 11:59 p.m.

Week 13 11/18 V1 - 13 11/20 V1 - 18

11/20 - Develop and evaluate U.S. energy plan for the year 2050 due to MU Online by 11:59 p.m.

Week 14 12/2 V1 - 19, 20

12/4 V1 - 19, 20 continued

12/2 – Cutoff for all work assignments at 11:59 p.m. No work submitted after that time will be considered or graded.

**Exam Two** (covering everything not on Exam One) – Thursday, 12/11/14 12:45 – 2:45 p.m.

The course officially closes at 2:45 p.m. Thursday, 12/11/14.

#### INSTRUCTOR BIOGRAPHICAL SKETCH

Sam Colvin received a bachelor's degree and a master's degree from WVU. He has taken postgraduate courses at Marshall.

Sam has worked on environmental issues since the first Earth Day in 1970. He was appointed as the first WV Youth Adviser to the newly-formed U.S. Environmental Protection Agency. As a student, he worked on a federally funded environmental education grant developing and testing course materials from elementary school to college level. He served a six month internship with the WVU Extension Environmental Education Specialist.

Sam has been employed at the city, county and state levels in West Virginia. He was an Extension Agent for two years, administrative assistant for admissions to the MU School of Medicine for six months, and the Community Development Director of Huntington for three years. He served as Executive Director of the WV Resource Recovery-Solid Waste Disposal Authority for eleven years. He was a market development representative for a major environmental company for one year. He has operated an environmental consulting business since 1990.

Sam has been a member of the WV Solid Waste Management Board and the WV Water Quality Advisory Committee. He served two years as Executive Director of the Ohio River Basin Consortium for Research and Education.

Sam's major environmental emphasis is solid waste, including recycling and composting. He is a certified yard waste facility operator and has received the National Backyard Compost training and the Compost Facility Best Management Practices training.

Sam has taught at Marshall since the spring of 2000. He has taught First Year Seminar 100, Integrated Science (ISC) 211 Living on Earth, Integrated Science and Technology (IST) 111 Living Systems, IST 120 Connections I, IST 220 Connections II, IST 320 Nature of Environmental Problems, and IST 321 Resolution of Environmental Problems. He has been involved in two Campus Compact service learning grants. He has completed Quality Matters for online teaching, critical thinking and service learning training.

Sam has completed Sustainability Awareness, Pollution Prevention and Environmental Management System training sponsored by WV Department of Environmental Protection, the National Pollution Prevention Roundtable and Bridgemont Community & Technical College.

His current research and service projects include: (1) Monitor and modify as needed the IST 320 online course; (2) Continue work on improvement of the impaired Fourpole Creek; (3) Continue evaluation of state-mandated waste reduction goal of 50%; (4) Monitor the reclamation of the former City of Huntington landfill; (5) Study the WV solid waste management system.

Sam lives in rural Wayne County, WV with his wife, Prudence. Prudence graduated from Marshall with bachelor's and master's degrees and is now retired after 34 years as an elementary teacher. They are active as volunteers in church and community activities. Sam is a volunteer assistant high school baseball coach.

They have two sons.

Andrew is a 2013 graduate of the United States Military Academy and an August, 2014 graduate of the Naval Dive School. He is currently a second lieutenant in the Army serving as an engineer dive officer.

Samuel is a 2014 graduate of the University of Charleston and the Army ROTC program. He is currently a second lieutenant in the Army serving as a military intelligence officer.