

COURSE: IST 111 Living Systems      CREDIT HOURS: 4    Fall, 2014    Section 104 CRN 4515

Classes and Labs 3:30 – 7:50 p.m. Tuesdays Room 200 Science Building

Course Description: Issues of current importance related to growth in human population and the depletion of biological resources, and the remedies that science and technology may provide. Related data analysis and prediction.

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

E- mail: 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 often respond to phone messages by email.

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

IST 320 taught on WEB only.

#### 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
1.	A. instructor modeling, examples, labs, texts	project summary, exams, lab reports
	B. instructor modeling, examples, labs, texts	project summary, exams, lab reports
2.	A. instruction, examples, labs, texts	project summary, exams, lab reports
	B. instruction, examples, labs, texts	project summary, data analysis, exams, lab reports
	C. instruction, examples, labs, texts	project plan and summary, exams, lab reports
3.	A. instructor presentations, labs, texts	project plan, summary, presentation, exams, lab reports
	B. instructor presentations, labs, texts	project summary, presentation, exams, lab reports
	C. instructor presentations, labs, texts	project summary, presentation, exams, lab reports

#### Purpose of Course:

“Science is a series of interrelated questions created from past experience and observation. We then test a series of possible outcomes to determine which outcomes are the most likely and which are not feasible. From these tests, we attempt to predict additional outcomes or define new questions. This course is designed to equip the students to observe and create their own questions, test them, and continue the process of scientific inquiry.” – Dr. Tom Jones

Course Conduct: Students will work in groups and/or individually to examine the world’s current environmental status. Students will gather information from various sources including the Internet, books, and other scientific references.

The instructor is responsible to: 1. Introduce concepts and issues. 2. Model a scientific approach. 3. Evaluate student submissions. 4. Make interesting and relevant presentations.

Students are responsible to: 1. Read texts 2. Participate in activities 3. Submit individual assignments and assure their proper receipt. 4. Take tests. 5. Remain interested and apply learning to life.

#### Required Texts:

TITLE:Bioinquiry AUTHOR:Pruitt EDITION:3rd COPYRIGHT YEAR:2006 PUBLISHER:John Wiley & Sons, Incorporated ISBN:9780471473213

TITLE:Collapse AUTHOR:Diamond Available:

In Print: COPYRIGHT YEAR:2011 PUBLISHER:Penguin ISBN:9780143117001

OR

Digital Format :Adobe Digital Editions PUBLISHER:COPIA LLC ISBN:9781101502006

## POLICIES:

Students who consistently (2 or more times) come to class late may be subject to a reduction in points not to exceed a one letter grade reduction at the discretion of the instructor.

Attendance is recorded .

Absences will be excused only with written excuses in accordance with University attendance policy. Students are responsible to make up any work missed because of an excused absence at the next attended class (or lab if lab was missed) after that absence. No credit will be recorded (1) unless the missed work is made up at the next attended class (or lab if lab was missed) after the absence and (2) until the University approved excuse is received by the instructor. Only the instructor can amend this policy at his discretion in cases of extreme hardship, but is always willing to listen.

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

It is the student's responsibility to assure the receipt by the instructor of assignments and labs in the prescribed format so that the work can be opened and graded. Work not in the prescribed format or not under the right assignment 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. PLEASE DO NOT SEND SUBMISSIONS BY E-MAIL.

Submission deadlines to MU Online 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. Submissions will not be returned. Please keep copies of all work submitted.

Grades will be reported on MU Online allowing students to determine their grade status anytime, but especially prior to course withdrawal deadlines and end of the class. Assignments and labs will be marked, graded and comments (if any) 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.

If you need to earn a certain grade in this class for any reason (scholarship, aid, graduate school, etc.), I am willing if requested at the beginning of the semester to help you devise a personal plan to work toward the desired grade.

There is no extra credit, re-testing, scaling, or rounding. No work received after the last exam will be graded. The course officially closes at the end of the last exam. After the class is over, please only contact me if I can be of assistance such as being a reference or if you feel there has been a point total error. Please do not contact me attempting to negotiate a better grade.

At the end of the course, the instructor may, in his discretion, consider awarding extra points to a student four points or less away from the next grade level provided that student has completed all assignments, activities, exams and labs in a timely fashion. These are actual points, not percentages.

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

Due dates and assignments are subject to change. The final word on changes will be announcements in class. Due dates will only be moved back, not forward.

If the instructor must change the time or place of a scheduled event, he will make every effort (1) to announce the change in a prior class, (2) to e-mail students in advance and / or (3) at a minimum to have a sign posted on the original room with the instructor's name on the sign. The same type of notification can be expected if the instructor must cancel a scheduled session.

Some materials used in this class may be copyrighted and should not be shared with individuals not enrolled in this course.

Below is the current University policy related to the granting of incompletes for courses. This policy 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.

Course Evaluation: Students will be evaluated through:

Class Attendance and Participation (minus 7 points for each unexcused absence) points	100
Lab Attendance and Participation (first 13@ 21 points each, lab 14@ 27 points) points	300



Project Plan points	75
Design Experiment/Study points	100
Analyze Data points	25
Project Summary/ Findings/Conclusions points	100
Project Presentation points	100
Exam One points	100
Exam Two points	100

Total:

1000 points possible

Grades:	A 90-100%	900 to 1,000 points
	B 80-89%	800 to 899 points
	C 70-79%	700 to 799 points
	D 60-69%	600 to 699 points

F < 60%

0 to 599 points

## COURSE OUTLINE AND 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.

**Tests are in bold.**

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

Labs and Lectures

Week 1 8/26 - syllabus, get acquainted, explanation of assignments

Lab 1- Inquiry

Week 2 9/2 - Introduction Lab 2 - Experiment

Week 3 9/9 - environmental scientist, scientific / critical thinking, living systems, Collapse Prologue

Lab 3 Bioinquiry Chapter 1, 2, 3

9/9 – Project Plan submitted to MU Online by 11:59 p.m.

Week 4 9/16 – Collapse Chapters 1, 2, 3 and 4 Lab 4 Bioinquiry Chapter 4

Week 5 9/23 – Collapse Chapters 5, 6, 7 and 8 Lab 5 Bioinquiry Chapter 5

9/23 - Design Experiment/Study submitted to MU Online by 11:59 p.m.

Week 6 9/30 - Collapse Chapters 9, 10, 11 and 12 Lab 6 Bioinquiry Chapter 6

Week 7 10/7 – Collapse Chapters 13, 14, 15 and 16 Lab 7 Bioinquiry Chapter 7

10/7 – Analyze data submitted to MU Online by 11:59 p.m.

Week 8 10/14 – Population, Species and Biodiversity Lab 8 Bioinquiry Chapters 8 and 9

10/14 - **Exam One online** (based on Collapse) due to MU Online by 11:59 p.m.

Week 9 10/21 – Energy, Information, Matter, Biological Communities and Biomes

Lab 9 Bioinquiry Chapter 10

Week 10 10/28 – The Commons Lab 10 Bioinquiry Chapter 11

Week 11 11/4 – Human Body/Health, Form/Function/Size Lab 11 Bioinquiry Chapter 12

11/4 - Project Summary/Findings/Conclusions submitted to MU Online by 11:59 p.m.

Week 12 11/11 - Student Presentations Lab 12 Bioinquiry Chapter 13

Week 13 11/18 – Student Presentations Lab 13 Bioinquiry Chapter 14

11/18 - Copy of Presentation submitted to MU Online by 11:59 p.m.

Week 14 12/2 - Cycles/Wastes, Sustainability Lab 14 Bioinquiry Chapters 15 and 16

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

12/9 - **Exam Two** (based on Bioinquiry and related lectures) Tuesday 3:30 to 5:30 p.m. The course officially closes at 5:30 p.m., Tuesday, 12/9/14.

## 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 Army ROTC. He is currently a second lieutenant in the Army serving as a military intelligence officer.