

**Course Options for Chemistry and Biochemistry Majors  
Participating in Messiah-Approved Off-Campus Study  
Messiah College EpiCenter**

*August 1, 2008*

The following is a listing of courses that we have identified as possible options for students in your department. **This list is fluid and constantly changing.** Please use this as a guide to help identify programs that might work with your curriculum. However, please refer to current course listings for actual courses that will be offered the semester that you are studying off campus.

**Au Sable Institute**

BIOL 351 Bioethics: Bridge to the Future  
BIOL 489 Biosphere Science  
BIOL 443 Capstone Seminar and Practicum  
ENVST 352 Ecological Issues in Science and Religion  
BIOL 403 Ecology of African Agriculture  
ENVST 368 Environmental History of the Pacific Northwest  
BIOL 266 Field Biology of the Pacific Northwest  
BIOL 361 Field Natural History  
BIOL 452 Intro to Environmental Medicine and Public Health  
ENVST 357 Introduction to Geographic Information Systems  
BIOL 450 Introduction to Tropical Medicine  
BIOL 486 Land Stewardship Ecology  
BIOL 318 Marine Biology  
BIOL 306 Ornithology: Western Birds  
BIOL 306 Pacific Rim Development and Ecological Sustainability  
ENVST 380 Principles of Environmental Education and Interpretation  
BIOL 499 Research  
BIOL 490 Research Methods I  
BIOL 491 Research Methods II  
BIOL 483 Restoration Ecology Applications  
BIOL 400 Special Topics in Environmental Studies  
BIOL 346 Stream Ecology and Watersheds  
BIOL 333 Summer Flora  
BIOL 348 The Ecology of Commerce  
BIOL 326 Town and Country Stewardship Planning  
BIOL 343 Tropical Agriculture and Missions  
BIOL 355 Watershed Stewardship  
BIOL 489 Wetland Ecology

**Great Lakes –**

BIOL 310 Winter Biology  
ENVST 350 Environmental Ethics  
BIOL 305 Ornithology  
BIOL 315 Woody Plants  
BIOL/GEOL/GEOG 301 Land Resources  
BIOL 311 Field Botany  
BIOL 321 Animal Ecology  
BIOL 322 Aquatic Biology  
BIOL 411 Advanced Field Biology  
BIOL/GEOG 471 Conservation Biology

BIOL 487 Forest Ecology  
GEOL/GEOG 216 Field Geology  
BIOL 302 Limnology (Water Resources)  
BIOL 312 Insect Biology and Ecology  
CHEM 332 Environmental Chemistry  
BIOL 342 Fish Biology and Ecology  
BIOL/GEOG 457 Bioregional Models for Environmental Stewardship  
BIOL 482 Restoration Ecology

**Pacific Rim –**

ENVST/BIOL/INT 353 Stewardship Praxis  
BIOL 344 Pacific Salmon and Fisheries Stewardship  
ENVST/INT 370 Stewardship Art  
BIOL 377 Marine Invertebrates  
BIOL 417 Marine Stewardship  
BIOL 477 Plant Ecology  
GEOL/GEOG 217 Field Geology of the Pacific Northwest  
BIOL/AGR/GEOG 303 Ecological Agriculture  
BIOL/GEOG 304 Global Development and Ecological Sustainability  
BIOL 311 Field Botany  
BIOL 359 Marine Mammals  
BIOL 378 Alpine Ecology

**India –**

BIOL 427 Ecology of the Indian Tropics  
BIOL/GEOL/GEOG 309 Land Resources of South India  
BIOL 330 Birds and Mammals of South India  
BIOL 479 Tropical Mountain Ecology

**East Coast –**

BIOL/GEOG 267 Natural History of the Chesapeake

**Africa –**

BIOL/GEOG 305 Development and Ecological Sustainability in Africa  
BIOL 307 Birds on the African Tropics  
BIOL 319 Tropical Botany  
BIOL 329 Mammals of East Africa

**City University – Athens**

SCI 215 Environmental Science  
SCI 304 Meteorology  
SCI 303 Oceanography  
SCI 302 Astronomy

**Creation Care Study Program**

**Belize -**

Tropical Ecosystems  
Introduction to Sustainable Community Development  
God and Nature

**New Zealand –**

Ecosystems of the South Pacific  
Introduction to Sustainable Community Development  
God and Nature

**Daystar University – KENYA**

After careful review of safety concerns in the country of Kenya. Messiah College's International Risk Management Team has temporarily suspended participation in this program. The program is reviewed regularly. Participation will resume as soon as it is the team has determined that students can participate with the reasonable expectation that they are in a safe learning environment.

BIO 111 Biology

ENV 111 Environmental Science

**Houghton in Tanzania**

BIOL 207 Wildlife Behavior in East Africa

BIOL 212 Advanced Wildlife Behavior in East Africa

**Latin American Studies Program**

Tropical Science and Sustainable Development Concentration

Science Seminar

Field Research

**University of Gloucestershire- Cheltenham, ENGLAND (BCA)**

EL124 Earth and Atmosphere Systems

EL125 Environmental Data Handling

EL163 Bioscience and Geoscience Field week

EL166 Practical Environmental Investigation

EL184 Genetics and Evolution

EL188 Life on Earth : Diversity & Adaptation

EL189 Life on Earth: Ecology

EL190 Cells to Organisms

EL191 Technical Skills

EL199 Skills for Sustainability

EL202 Investigative Methods

EL227 Ecosystems

EL264 Evolution, Adaptation and Extinction

EL270 Water and Water Quality

EL282 Comparative Environmental Physiology

EL284 Human Evolution & Adaptation

EL286 Microbial Systems

EL288 Population Biology

EL289 Animal Behaviour

EL291 Invertebrate Biology

EL301 Development of Professional Skills in the Workplace

EL336 Wilderness & Wildlife

EL337 Palaeoecology

EL338 Biogeography

EL372 Fieldwork Projects

EL384 Parasites & Disease

EL388 Sounds, Smells, Sex: The Biology of Communication

EL392 Evolutionary Ecology

EL393 Microbiology and Biotechnology

EL394 Practical Behavioural Ecology

EL395 Biology and Ecology of Social Insects

PY107 Biological Basis of Behaviour

**University of San Francisco in Quito - Quito, ECUADOR (BCA)**

AGR 203 Fisiología Vegetal  
AGR 211 Suelos y Conservación  
AGR 212 Olericultura  
AGR 221 Fertilidad y Manejo de Suelos  
AGR 222 Nutricion y Reproduccion Animal  
AGR 223 Fruticultura  
AGR 311 Cultivos I  
AGR 312 Produccion Animal I  
AGR 313 Tecnicas Experimentales  
AGR 314 Proteccion Vegetal  
AGR 321 Ingenieria Agricola  
AGR 322 Produccion Animal II  
AGR 330 Cultivos II  
AGR 340 Fitomejoramiento  
AGR 421 Agrobiotecnologia  
AGR 422 Floricultura  
AGR 424 Preparacion y Evaluacion de Proyectos Gropecuarios  
AGR 480 Comercio Agrícola Exterior  
AGR 485 Manejo Poscosecha  
AGR 490 Agroindustrias  
AGR 520 Cultivos Protegidos  
BIO 120 Biología Basica  
BIO 140 Biología General  
BIO 200 Flora y Fauna del Ecuador  
BIO 202 Botanica General y Sistemática  
BIO 222 Zoología  
BIO 232 Evolucion  
BIO 235 Genética General  
BIO 250 Microbiología Aplicada  
BIO 302 Fisiología Animal  
BIO 307 Entomofauna del Ecuador  
BIO 308 Ictiofauna del Ecuador  
BIO 311 Ornitofauna  
BIO 312 Mastozoología Neotropical  
BIO 315 Herpetofauna del Ecuador  
BIO 355 Dendrología del Ecuador  
BIO 361 Plantas Medicinales  
BIO 362 Plantas Útiles  
BTC 110 Introducción a la Biotecnología  
BTC 300 Biotecnología de Alimentos  
BTC 301 Microbiología de Alimentos  
BTC 307 Microbiología Patogénica  
BTC 310 Biotecnología de Animales  
BTC 340 Biología Molecular  
BTC 351 Biodiversidad y Biotecnología  
BTC 402 Bioseguridad  
BTC 450 Bioremediación  
Ecología y Recursos del Ecuador  
ECL 112 Introducción a ecología Aplicada I

ECL 200 Ecología Basica  
ECL 250 Ecología y Biogeografía  
ECL 300 Ecología de Poblaciones y Comunidades  
ECL 310 Ecología Humana  
ECL 320 Ecología y Recursos Marinos  
ECL 332 Técnicas de Investigación en Ecología  
ECL 350 Sem. Ecología de Galapagos  
ECL 351 Ecología de Galapagos II  
ECL 370 Ecología Ecuatoriana  
ECL 380 Manejo de Turismo Sustentable  
ECL 390 Capacidad de Carga de Sitios Turísticos  
ECL 401 Tropical Ecology  
ECL 405 Tropical Montane Ecology  
ECL 406 Tropical Coastal Ecology  
ECL 407 Tropical Rain Forest Ecology  
ECL 408 Studies in Tropical Ecology  
ECL 460 Modelos Ecológicos  
FIS110 Física para Ciencias Médicas  
MCR 401 Fisiología Bacteriana  
MCR 402 Parasitología  
MCR 403 Virología Animal  
MCR 405 Biología de Enfermedades Tropicales  
MED 100 y MED 101 Introducción a CCSS I y CCSS II  
MED 105 Seminario en Salud Comunitaria  
MED 120 Desarrollo y Salud Comunitaria  
MED 130 y MED 200 Anatomía y Semiología  
MED150 Morfofuncional I  
MED151 Morfofuncional II  
MED 199 Seminario de Desarrollo Comunitario Integral  
MED 200 Semiología  
MED 204 y MED 205 Introducción a las CCSS III y Laboratorio  
MED 206 Introducción a CCSS IV  
MED 207 Inmunología  
MED 210 Historia de la Medicina  
MED 214 Introducción a la Salud Internacional  
MED 220 Farmacología  
MED 232 Resucitación Cardiopulmonar  
MED250 Salud Comunitaria  
MED251 Práctica en Salud Comunitaria  
MED 260 Microbiología Médica  
MED290 Morfofuncional III  
MED291 H. y D. Morfofuncional III  
MED 306 Bioética I  
MED330-332 Investigación  
MED333-335 Cardíaco I  
MED336-338 Respiratorio I  
MED339-341 Líquidos y Renales  
MED342-344 Neurológico I  
MED345-347 Endócrino I  
MED348-350 Digestivo  
MED351-353 Genética e Inmunología

MED354-356 El Niño  
MED357-359 La Mujer  
MED360-362 Hematológico  
MED363-365 Oncológico  
MED366-368 Digestivo  
MED369-371 Infeccioso  
MED372-374 Cardíaco II  
MED375-377 Respiratorio II  
MED378-380 Neurológico III  
MED381-383 Medicina Crítica y Emergencias  
MED384-386 El Niño II  
MED 387-389 La Mujer II  
MED507 Modelos de Sistemas de Salud  
MED508 Bioética II  
MED509 Oftalmología  
MED510 Otorinolaringología  
MED511 Dermatología  
MED512 El Anciano  
MED513 Problemas del Comportamiento  
MED514 Correlación Clínica  
MED515 Traumatología II  
MED516 Cirugía  
MED517 Medicina Alternativa  
MED630 Rotación Medicina Interna  
MED631 Rotación Cirugía  
MED632 Rotación Salud Comunitaria  
MED633 Rotación en Gineco-Obstetricia  
MED634 Rotación en Pediatría  
QUI120 Química  
QUI121 Química II  
QUI310 Bioquímica  
REC 280 Organización Institucional de la Conservación  
REC 311 Educación Ambiental  
REC 312 Negociación Ambiental  
REC 320 Agroecología General  
REC 330 Áreas Naturales Protegidas del Ecuador  
REC 350 Conservación y Manejo de Vida Silvestre  
REC 405 Desarrollo Sostenible y Manejo de Recursos Renovables  
REC 412 Recursos Hídricos, Manejo, Protección, Tratamiento  
REC 414 Tratamiento de Aguas Industriales  
REC 415 Sensores Remotos e Interpretación de Imágenes  
REC 420 Ecología Forestal y Silvicultura  
REC 460 Políticas Ambientales  
REC 461 Elementos de Legislación Ambiental  
REC 470 Plantificación Regional  
REC 473 Plantificación de Proyectos Ambientales  
REC 476 Métodos de Evaluación de Impactos Ambientales  
REC 478 Monitoreo Ambiental  
REC 480 Elementos de Ingeniería Ambiental