

MTU's Ecology of the Great Lakes Teacher Institute Aboard EPA's R/V Lake Guardian ~ July 5-10, 2004

COURSE SCHEDULE (7/2/04)

Monday, July 5	Tuesday, July 6	Wednesday, July 7
	Breakfast & Overview of Day 7-8 am	Breakfast & Overview of Day 7-8 am
<p>7 AM <i>In Port - MTU Central Stores dock</i> Equipment loading</p> <p>9 AM Participant check-in</p> <p>10 AM Depart</p> <p>10:30 AM <i>Welcome, Course Overview & Introductions</i> Joan Chadde & Marty Auer</p> <p>11:30 AM <i>R/V Lake Guardian Tour & Safety Orientation</i></p>	<p>5 AM PONAR sampling (optional) Ed Verhamme and Bridget Cannon Michigan Technological University</p> <p>9 – 10 AM Lecture <i>Diporeia and the Great Lakes Food Web</i> Dr. Marty Auer Michigan Technological University</p> <p>10 AM – Noon Lab Benthos laboratory Dr. Marty Auer Michigan Technological University</p>	<p>8 -11 AM Lab Limnology – Light and Temperature Dr. Marty Auer Michigan Technological University</p>
Lunch & Discussion Noon-1 pm	Lunch & Discussion Noon-1 pm	Lunch & Discussion Noon-1 pm
<p>1 – 2 PM Lecture <i>Exploring Shipwrecks – ROV style</i> Mark Gleason, Isle Royale Institute</p> <p>2 -3 PM Demonstration ROV dive on the Mesquite Mark Gleason, Isle Royale Institute</p> <p>4 – 5 PM On deck <i>Lake Effects: More Than Just A Lake</i> Joan Chadde, Western UP Center</p>	<p>1 - 2 PM Lecture <i>PBT Fate and Transport in the Great Lakes</i> Dr. Judith Perlinger Michigan Technological University</p> <p>2-4 PM <i>Demo on deck</i> PBT Fate and Transport Dr. Judith Perlinger & Dave Tobias Michigan Technological University</p> <p>4 PM -5PM <i>Isle Royale National Park</i> Mark Gleason, Isle Royale Institute</p>	<p>1 PM -2 PM PBT Fate and Transport Lab Exercise Dr. Judith Perlinger & Dave Tobias Michigan Technological University</p> <p>2 PM -5 PM Lab Limnology – The Plankton Dr. Marty Auer Michigan Technological University</p>
Dinner & Discussion 5-6 pm	Dinner & Discussion 5-6 pm	Dinner & Discussion 5-6 pm
<p>6 – 7 PM Lecture Limnology – Physics Dr. Marty Auer Michigan Technological University</p> <p>7 – 9 PM Student Presentations Joan Chadde, Western UP Center</p> <p>9- 10 PM Reading Group: <i>Journal of Louis Agassiz</i> Dr. Marty Auer Michigan Technological University</p> <p>10 – 11 PM (optional) ROV dive on Superior Shoal Mark Gleason, Isle Royale Institute</p>	<p>6-9 PM Visit to Isle Royale ?? Mark Gleason, Isle Royale Institute</p> <p>9 – 10 PM Student Presentations Joan Chadde, Western UP Center</p> <p>10 – 11 PM Reading Group: <i>Paddle to the Sea</i> Mark Gleason, Isle Royale Institute</p> <p>11 PM - Midnight PONAR sampling (optional) Ed Verhamme and Bridget Cannon Michigan Technological University</p>	<p>7 PM -9 pm Student Presentations Joan Chadde, Western UP Center</p> <p>9-10 PM Reading Group: <i>Face in the Rock</i> Joan Chadde, Western UP Center</p>

Presented by:

Michigan Technological University, Isle Royale Institute & the Western U.P. Center for Science, Math and Environmental Education

NOTE: There will be sign-up sheets posted for the Reading Groups and Student Presentations. Participants are expected to attend THREE of the six hours of Student Presentations and TWO of the Reading Groups. Substantive conversation, reflection, and journal-writing are encouraged throughout the course.

Thursday, July 8	Friday, July 9	Saturday, July 10
Breakfast & Overview of Day 7-8 am	Breakfast & Overview of Day 7-8 am	Breakfast & Overview of Day 7-8 am
<p>6 - 8 AM Lab Pollution Impacts at Silver Bay Dr. Marty Auer Michigan Technological University</p> <p>9 AM – Noon Lab Analysis of Sediment/Benthos Samples Dr. Marty Auer Michigan Technological University</p>	<p>8 - 10 AM Lab Limnology – Chemistry Dr. Sarah Green Michigan Technological University</p> <p>10 AM-Noon Lab <i>Data Analysis Summary</i> Dr. Marty Auer Michigan Technological University</p>	<p>7:30 - 8 AM <i>Ichthyology</i> Dr. Nancy Auer Michigan Technological University</p> <p>8 – 10 AM Sampling Limnology – Ichthyology/Sediments Dr. Nancy Auer, Dr. Noel Urban Michigan Technological University</p> <p>11 AM – 2 PM Sampling & Summary Limnology – Ichthyology/Sediments Dr. Nancy Auer, Dr. Noel Urban Michigan Technological University</p>
Lunch & Discussion Noon-1 pm	Lunch & Discussion Noon-1 pm	Lunch & Discussion Noon-1 pm
<p>1 – 2 PM Lec <i>Water Quality in Duluth Harbor</i> Doug Jensen, Minnesota Sea Grant</p> <p>2 PM - 3 PM Sampling Aquatic Invaders Doug Jensen, Minnesota Sea Grant Mark Gleason, Isle Royale Institute</p> <p>3 PM-8 PM Shore Leave Begins (on your own) Great Lakes Aquarium Maritime Museum IMAX Dinner on your own</p>	<p>1 -2 PM Lec <i>Benthos and Sediment Sampling</i> Dr. Nancy Auer, Dr. Noel Urban Michigan Technological University</p> <p>2 PM-4 PM Lab Limnology – Benthos and Sediment Dr. Nancy Auer, Dr. Noel Urban Michigan Technological University</p>	<p>2-3 PM <i>Course Wrap-up</i> Joan Chadde, Western UP Center Mark Gleason, Isle Royale Institute</p> <p>3 PM <i>Arrive MTU Central Stores dock</i> Course ends</p>
Dinner Ashore 5-6 pm	Dinner & Discussion 5-6 pm	Dinner & Discussion 5-6 pm
<p>7:30 Shore leave ends</p> <p>8 PM Depart Duluth</p> <p>9 PM-10 PM Student Presentations - 10 PM Joan Chadde, Western UP Center</p> <p>10 PM-11 PM Reading Group: <i>Writing on Water</i> Dr. Sarah Green Michigan Technological University</p> <p>12 Midnight – 1 AM PONAR sampling (optional) Ed Verhamme and Bridget Cannon Michigan Technological University</p>	<p>6 PM – 7 PM <i>Benthos and Sediment Sampling</i> Dr. Nancy Auer, Dr. Noel Urban Michigan Technological University</p> <p>7 PM Limnology – Benthos and Sediment Dr. Nancy Auer, Dr. Noel Urban Michigan Technological University</p> <p>10 PM -11 PM Reading Group: <i>Lake Superior Monster Fish</i> Dr. Nancy Auer Michigan Technological University</p> <p>11 PM - Midnight Limnology – Ichthyoplankton Dr. Nancy Auer Michigan Technological University</p>	<p>6 PM – 8 PM Public Tours of Guardian at Houghton Waterfront with: EPA Staff, Joan, Mark, Ed, Bridget</p>

Labs, On-deck sampling & Activities are noted in **bold**; *lecture presentations* in italics.

Schedule is subject to revision to accommodate weather and ship's needs.

Daily schedules will be reviewed and possibly revised at breakfast each day and posted.

MEAL TIMES : 7-8 am Breakfast (*Between meal snacks are available in cupboard of Lounge, marked MTU*)
 Noon-1 pm Lunch
 5-6 pm Dinner