FLUVIAL MORPHOLOGY AND PROCESSES, GEO 6282
Spring 2014, 3012 Turlington Hall, T6 (12:50-1:40 P.M.), R6-7 (12:50-2:45 P.M.)

Instructor: Dr. Joann Mossa  Office Location: 3131 Turlington
Office Hours: TRF 9-11 A.M. or by appointment  Phone: 294-7510
E-mail: mossa@ufl.edu (please communicate when appropriate)

CATALOG DESCRIPTION: Examines the nature and variety of fluvial processes and the origin and modification of fluvial landforms; includes discussion of environmental changes in rivers and human activities in drainage basins

COURSE REQUIREMENTS AND/OR RECOMMENDATIONS:
Physical Geography (GEO 2200) or Physical Geology (GLY 2010) or equivalent or permission of instructor

RECOMMENDED COURSE READINGS:

BASIC TEACHING APPROACH
Want to create a positive learning environment
Big believer in resource availability, all Power Points posted on Sakai; Advise you use them
Ask open questions in class to help in learning and thinking; your questions welcome also
Attendance/responsible behavior encouraged by in-class assignments
Many items graded (2-20% of grade apiece). You will not be anonymous.
If you tend to miss classes, want to be anonymous, or prefer exams to assignments, give consideration to dropping this class in favor of one more suited to your learning style

ASSIGNMENTS, ATTENDANCE AND MAKE-UP POLICY
Class attendance is highly recommended, and missed classes are likely to seriously impact your grade due to the number of in-class assignments. In certain circumstances (family emergency, illness), I will work with students who need to make-up an in-class assignment out of class.

IMPORTANT DATES
-February 6, at a meeting, no class but will give some take-home work
-Spring Break: March 1-8, no classes
-April 8-12, at a meeting part or all week, will give some take-home work

GRADING AND ASSIGNMENTS:
A = 90 or above; A- = 88-89.9; B+ = 86-87.9; B = 80-85.9; B- = 78-79.9; C+ = 76-77.9;
C = 70-75.9; C- = 68-69.9; D+ = 66-67.9; D = 60-65.9; D- = 58-59.9; E = < 58
Note: A grade of C- or lower does not meet major, minor, or Gen Ed requirements.
GRADING COMPONENTS

FOUR QUIZZES (10% Each, Total 40%)
Quiz 1: Background Terminology and Drainage basins
Quiz 2: Hydrographs and Channel processes
Quiz 3: Sediments, Erosion, Deposition and Transport
Quiz 4: Channel Morphology and Channel Change

IN-CLASS AND SHORT TAKE-HOME ASSIGNMENTS (35%)
After they are returned, keep these to help with quiz review. Assignments may include:
1) reviews or responses to questions regarding documentaries or videos of processes in rivers shown in class, usually worth 2 pts. Be on time so not to distract others during the movie
2) map and data analysis assignments regarding fluvial systems to familiarize students with a variety of data sources, and teach through problem-based learning. Some will be done individually and some in groups. Some will be done fully in class, others out of class, others mixed. These will be worth 5 to 10% each. Some potential assignments include:
   a. Drainage basin delineation
   b. Hydrograph interpretations
   c. Flow duration curves
   d. Plotting channel cross sections
   e. Sediment rating curves
   f. Channel geometry changes using varied data sources
   g. Data extraction from USACE hydrographic surveys
   h. Google Earth assignments
3) Field trip participation, usually during class period, usually worth 2 pts.
4) Sakai discussion board postings, usually 1 pt. apiece

PARTICIPATION (5%): A class of this nature is better with your questions, ideas and input, not distracting others, your presence and promptness

PAPER (20%): Find a subject of interest. It can be of a topical nature (bank erosion; point bars; braided rivers; bed load, river restoration-prospects and problems), about cause and effect relationships (effects of urbanization on channel morphology; effects of beavers on river form and process), or about rivers associated with a particular environmental setting (arctic rivers, glaciofluvial rivers, ephemeral rivers, headwater rivers, karst rivers, large rivers, mined rivers, dammed rivers, etc.). Begin with a title page. An abstract and table of contents are optional. In your introduction, state what you are going to write about, what questions the paper will answer, and why it is important. It will help you write and organize if you develop an outline. Then, divide the body into appropriate sections using subheadings. In the body, present data (facts, statistics, photocopies of figures, photographs) and other information from the references you are using. Give credit to the source(s) in your captions, figures, and in your sentences. Specific facts, numbers, and opinions should be cited; general knowledge or your opinions should not be. Describe how the data contributes to the questions or issues that you are discussing. In your conclusion, summarize the information and facts that you have presented. Draw from multiple events, and include at examples from outside the U.S. Submit 10-12 page double-spaced paper with at least 10 references from refereed journals (discussed in class). Maps and graphics are a part of the grade but are not included in the page length. The grading rubric is as follows: 10% originality (look at examples and topics discussed outside of class, 20% breadth and depth of research (do not focus on one flood, compare your topic across different events and locations), 20% organization and structure including use of subheadings, 20% writing quality and grammar, 10% use of maps, data, tables and graphics, 20% quality and quantity of references and citations. Be consistent with the use of punctuation, quotes, complete citations,
and references (e.g. follow any legitimate style guide that you like, but follow it consistently). Papers should be typed with 1-inch margins, double-spaced, 11-12 pt. font, figures and citations, and appropriate credits. I will be happy to assist with ideas. Due Date: mid-April

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<td>Background terminology and concepts</td>
<td>Charlton: 1-9, 10-20</td>
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<td>Significance of fluvial studies</td>
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<td>PP Introduction to Fluvial Systems, Geomorphic Concepts</td>
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<td>2, 3, 4</td>
<td>Drainage basin form and processes/Quiz 1</td>
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<td>PP: Basics of Drainage Systems, Hydrology &amp; Hydrographs,</td>
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<td>5, 6, 7</td>
<td>Channel processes/Quiz 2</td>
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<td>PP: Stage and Stage-Q relations, Velocity,</td>
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<td>Discharge &amp; Measurement, Flood and Drought Analysis</td>
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<td>8, 9</td>
<td>Sediments, erosion and transport</td>
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<td>PP: Hillslope Erosion, Bank Erosion, Sediments &amp; Transport</td>
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<td>Sediments, deposition and stratigraphy/Quiz 3</td>
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<td>PP: Deposition, Sedimentary Deposits and Floodplain Features</td>
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<td>11, 12</td>
<td>Channel morphology</td>
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<td>PP: Channel Geometry and Cross Sections</td>
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<td>12, 13</td>
<td>Channel planform and pattern, channel profiles</td>
<td>Charlton: 137-156</td>
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<td>PP: Channel Planform and Pattern, PP: Channel Profiles</td>
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<td>14, 15</td>
<td>River channel changes, paleohydrology</td>
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**HONOR CODE:** UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.” On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor of this class.

**STUDENTS WITH DISABILITIES AND OTHER CONCERNS**
"Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. Please take care of your health and be aware that the University Counseling Center (392-1575, http://www.counseling.ufl.edu/cwc/Default.aspx), the Student Health Care Center (392-1161) and Student Mental Health (392-1171) can assist students as they work through personal, academic and social issues. Provide advance notice and obtain documentation for excused absences where possible. If needed, University Police Department can be contacted at 392-1111 or Dial 9-1-1 for emergencies. Please minimize distractions to yourself and others during class time (cell phones off, no ancillary conversations, quiet typing only).

**EVALUATIONS:** Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results