17. Other Items – from UCC April Meeting

New Course

**SPSC 398. Interpretation of Aerial Photographs. (2-3). Credit 3.** Identification and evaluation of natural and cultural features on aerial photographs; methods for extracting information concerning land use, vegetative cover, surface and structural features, urban/industrial patterns and archaeological sites. Prerequisites: Any mathematics course and one of the following: AGRO 301, BIOL 113, FRSC 101, GEOG 203, GEOL 101, RENR 205, WFSC 101. Cross-listed with FRSC 398 and GEOG 398.
Texas A&M University  
Departmental Request for a New Course  
Undergraduate • Graduate • Professional  
Submit original form and 25 copies. Attach a course syllabus to each.

1. This request is submitted by the Department of Forest Science
2. Course prefix, number and complete title: SPSC 398 Interpretation of Aerial Photographs

3. Course description (not more than 50 words): Identification and evaluation of natural and cultural features on aerial photographs; methods for extracting information concerning land use, vegetative cover, surface and structural features, urban/industrial patterns and archaeological sites. Prerequisites include the following: MAT 132 and one of the following: AGRO 301, BIOL 113, FRSC 101, GEOG 203, GEOL 101, RENR 205, WFSC 101

4. Prerequisite(s): See above. Cross-listed with FRSC 398, GEOG 398

5. Is this a variable credit course? ☐ Yes ☐ No  
   If yes, from _______ to _______

6. Is this a repeatable course? ☐ Yes ☐ No  
   If yes, this course may be taken _______ times. Will the course be repeated within the same semester/term? ☐ Yes ☐ No

7. Has this course been taught as a 489/689? ☐ Yes ☐ No  
   If yes, how many times? _______ Indicate the number of students enrolled for each academic period it was taught.

8. This course will be:  
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)  
      B.S. in spatial science  
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)  
      B.S. forest science

9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

10. Prefix  | Course #  | Title (exclude punctuation)  
       | SPSC 398 | INTERP OF AERIAL PHOTO |

<table>
<thead>
<tr>
<th>Lect.</th>
<th>Lab</th>
<th>SCH</th>
<th>Subject Matter Content Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>FICE Code</th>
<th>Level</th>
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<tr>
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<td>03</td>
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<td>03</td>
<td>05</td>
<td>01</td>
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<td>05</td>
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</table>

Do not complete shaded area.

Approval recommended by:

J. Whisenant  
9/22/06

Head of Department

Chair, College Review Committee  
10/2/06

Dean of College

Head of Department (if cross-listed course)  
9/18/06

Date

Dean of College

Date

Submitted to Coordinating Board by:

Dean of College

Date

Director of Academic Support Services

Date

Effective Date

* Attach a syllabus according to the guidelines on the Internet site www.tamu.edu/admissions/oaras. To have this form reviewed, please send to Linda F. Lacev, Mail Stop 1265 or fax to 847-8737.

UAR/AS-1099

2 of 6 L
Texas A&M University     Dept. of Forest Science
                      Dept. of Geography

Course title            Interpretation of Aerial Photographs
Course number           SPSC 398
Course date             Fall Semester 2006 (August 28, 2006 through December 11, 2006)
Location                Lecture: HFSB 105; Lab: Centeq B 214 (SSL teaching lab)
Meeting day(s)          Monday & Wednesday
Meeting time(s)         Lecture MW: 12:40 - 1:30pm; Lab W: 2:00 - 4:50pm

Instructor Information
Name                    Sorin Popescu       http://www-ssl.tamu.edu/personnel/s_popescu/
Email                   s-popescu@tamu.edu
Office location         Centeq B 221D
Phone                   862-2614
WebCT page              http://elearning.tamu.edu/ (follow link to WebCT LOGINS @ TAMU
Office hours            Open door policy, though I recommend emailing/calling for appointments. Please put “398” in the subject in email messages regarding this class to receive prompt attention. Please avoid “drop-ins” just before class on Monday and Wednesday.
Teaching Assist.        Muge Mutlu, mugemutlu@tamu.edu

Course description
Course learning outcomes
Introduce students to the principles, equipment, and techniques used to:
  • Analyze film and digital sensor characteristics for interpreting aerial photographs
  • Interpret aerial photographs and digital imagery
  • Derive direct and indirect measurements on aerial photography
  • Map earth features using aerial photographs and digital imagery
• Calculate, report, and interpret map accuracy, and
• Derive solutions to environmental problems using aerial photos

Textbooks

Required reading  

Supplemental text on reserve at West Campus Library  

Grading

<table>
<thead>
<tr>
<th>Grading Category</th>
<th>Percentage</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>10 point break-out system</td>
<td>90.0 – 100 = A</td>
<td>Excellent</td>
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<td></td>
<td>80.0 - 89.9 = B</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>70.0 – 79.9 = C</td>
<td>Satisfactory</td>
</tr>
<tr>
<td></td>
<td>60.0 – 69.9 = D</td>
<td>Passing</td>
</tr>
<tr>
<td></td>
<td>00.0 – 59.9 = F</td>
<td>Fail</td>
</tr>
</tbody>
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Laboratories  
30 % All lab work is due at the *beginning* of the following lab period

Homework  
10 %

Quizzes  
10 % Will be administered through webCT; pop-quizzes in class

Midterm exam  
20 % Wednesday, Oct. 11th, during lecture/lab

Final exam  
30 % Monday, Dec. 11th, 10:30am – 12:30pm.

You will receive a registration block if checked out lab equipment is not returned before the day of the final exam.

Course outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>History of aerial photography; definitions of terms; electromagnetic spectrum</td>
<td>Chapter 1, part of Chapter 2</td>
</tr>
<tr>
<td>2</td>
<td>Geometry of vertical airphotos, principles of stereoscopic vision</td>
<td>Chapters: 2 and 3</td>
</tr>
<tr>
<td>3</td>
<td>Photogrammetry: scale of vertical airphotos; horizontal measurements</td>
<td>Chapters: 4 and 5</td>
</tr>
<tr>
<td>4</td>
<td>Photogrammetry: vertical measurements</td>
<td>Chapter 6 and 7</td>
</tr>
<tr>
<td>5</td>
<td>Digital imagery; orthophotography, map projections</td>
<td>Chapters: 8 and 9</td>
</tr>
<tr>
<td>6</td>
<td>GPS, GIS</td>
<td>Chapters: 10 and 12</td>
</tr>
<tr>
<td>7</td>
<td>Photo interpretation: human factors, films, filters</td>
<td>Chapters: 13 and 14</td>
</tr>
<tr>
<td>8</td>
<td>Photo interpretation: principles and techniques</td>
<td>Chapter 15</td>
</tr>
</tbody>
</table>
9  Land use, land cover  Chapters: 16 and 18
10  Geology, soil, engineering and environmental applications  Chapters: 17 and 19
11  Vegetation analysis, forestry applications  Chapters: 20 and 21
12  Natural resources inventory, statistics and sampling techniques, mapping accuracy  Chapters: 22, 23, 24, 25
13  Introduction to remote sensing, history, sensors  Chapter 26
14  Active remote sensors: lidar and radar  Chapter 27

**Laboratory schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Geometry of aerial photos, principal and conjugate point, stereo vision</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>2</td>
<td>Determining Distance, Angles, and Area using Air Photos</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>3</td>
<td>Height Determination from Air Photos I: Relief Displacement and Monoscopic Parallax</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>4</td>
<td>Height Determination from Air Photos: Stereoscopic Parallax</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>5</td>
<td>Field Collection of Global Positioning System (GPS) Data</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>6</td>
<td>Differential correction of GPS data</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>7</td>
<td>Midterm exam</td>
<td>TBA</td>
</tr>
<tr>
<td>8</td>
<td>Principles and techniques of aerial photo interpretation</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>9</td>
<td>Land-use/land-cover mapping using aerial photography</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>10</td>
<td>Digital spatial data sources: DEM, DOQQs, DRG, DLG</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>11</td>
<td>Finding GIS Data Layers and Viewing them in ArcView 8.1</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>12</td>
<td>Onscreen digitizing</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>13</td>
<td>Map accuracy assessment</td>
<td>Centeq B 214</td>
</tr>
<tr>
<td>14</td>
<td>Review of laboratory topics</td>
<td>TBA</td>
</tr>
</tbody>
</table>

**Laboratory, Homework, and Exam policy**

The University policy on Scholastic Dishonesty will be enforced in this course. While you are encouraged to help each other understand concepts and techniques, all work submitted should be your own. Exceptions to this policy will be explicitly noted by the instructor and should not be assumed by students. Make-up exams will not be offered except for a valid reason (per University rules).

All laboratory and homework assignments are to be completed in a neat, logical, and clear fashion. A 10% reduction in grade will be assessed for each weekday a lab or homework assignment is handed in late (up to a 50% reduction). Assignments late more than one week will not be accepted without documented excuse (per University rules). Request for exceptions to this policy will be discussed with the instructor and should be documented with valid reasons as per University rules. All lab work is designed to be completed in class.
**Aggie Code of Honor**

*Aggies do not lie, cheat, or steal, nor do they tolerate those who do.*

The Aggie Code of Honor functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other.

**Prerequisites:** good academic standing

**Required laboratory supplies**

- Engineer’s scale
- Plastic overlays: clear acetate, dura-lar, mylar
- Overlay marker (permanent): extra/ultra fine point, such as Sharpie Extra Fine Point, Pilot, Pentel, etc. Colors: black, green, blue, red.
- Drafting tape (small roll, not masking tape!)
- Protractor (reading to the nearest degree)
- Binder clips (when turning in homework/lab assignments, to bind together mylar and photos)

Optional: **calculator**, pins (with plastic handle), eraser, ruler

**Americans with Disabilities Act**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the department of Student Life, Services for Students with Disabilities in Room B118 of Cain Hall. The phone number is 845-1637.