Course objectives: This course will cover the theory and application of techniques and methods used in fisheries science. The class will focus on data collection, equipment, and techniques commonly used by researchers and managers in fisheries agencies. By the end of the course, students should understand the advantages and disadvantages of various techniques and methods and be able to critically evaluate sampling options to select the optimal method for a given research objective.

Grading: Student’s performance will be evaluated by three examinations (Cumulatively worth 70% of your grade), their participation in laboratory exercises and performance on several laboratory reports (20% of final grade), and a term paper comparing/contrasting available sampling methods from a literature review in order to develop a sampling protocol to address a research question that the students chose (10% of final grade).

Lecture Schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overview of fisheries management, Introduction to sampling</td>
<td>Chp 1 &amp; 2</td>
</tr>
<tr>
<td>2</td>
<td>Introduction to sampling</td>
<td>Chp 2, 3, &amp; 5</td>
</tr>
<tr>
<td>3</td>
<td>Passive capture techniques</td>
<td>Chp 6</td>
</tr>
<tr>
<td>4</td>
<td>Passive capture techniques, Active capture methods</td>
<td>Chp 6 &amp; 7</td>
</tr>
<tr>
<td>5</td>
<td>Active capture methods</td>
<td>Chp 7</td>
</tr>
<tr>
<td>6</td>
<td>Active capture methods, Electrofishing, End Material for Exam I</td>
<td>Chp 7 &amp; 8</td>
</tr>
<tr>
<td>7</td>
<td>Electrofishing</td>
<td>Chp 8</td>
</tr>
<tr>
<td>8</td>
<td>Electrofishing</td>
<td>Chp 8</td>
</tr>
<tr>
<td>9</td>
<td>Sampling with toxicants, Hydroacoustics</td>
<td>None, Chp13</td>
</tr>
<tr>
<td>10</td>
<td>Standardized sampling, End material for Exam II</td>
<td>Chp13</td>
</tr>
<tr>
<td>11</td>
<td>Age and Growth metrics</td>
<td>Chp 15</td>
</tr>
<tr>
<td>12</td>
<td>Age and Growth Metrics, Tagging and marking fish</td>
<td>Chp 15, 11</td>
</tr>
<tr>
<td>13</td>
<td>Tagging and marking fish</td>
<td>Chp 11</td>
</tr>
<tr>
<td>14</td>
<td>Biotelemetry</td>
<td>Chp 18</td>
</tr>
<tr>
<td>15</td>
<td>Bioenergetics model</td>
<td>Supplemental</td>
</tr>
<tr>
<td>16</td>
<td>Topics as time permits: Diet analyses; Field examination and disease identification; Keeping fish in the Lab;</td>
<td>Chp 16 or supplemental</td>
</tr>
</tbody>
</table>
Lab Schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>no lab-lecture in rm 014 AGH</td>
</tr>
<tr>
<td>2</td>
<td>No lab-AFS meeting</td>
</tr>
<tr>
<td>3</td>
<td>Working with spreadsheets (Excel exercise)</td>
</tr>
<tr>
<td>4</td>
<td>Boating safety and operation/knots, net mending</td>
</tr>
<tr>
<td>5</td>
<td>Passive fish capture</td>
</tr>
<tr>
<td>6</td>
<td>Passive fish capture</td>
</tr>
<tr>
<td>7</td>
<td>Active fish capture</td>
</tr>
<tr>
<td>8</td>
<td>Active fish capture</td>
</tr>
<tr>
<td>9</td>
<td>Stream sampling or Active capture cont'd</td>
</tr>
<tr>
<td>10</td>
<td>Analyze data from previous labs</td>
</tr>
<tr>
<td>11</td>
<td>Analyze data from previous labs</td>
</tr>
<tr>
<td>12</td>
<td>Age &amp; Growth</td>
</tr>
<tr>
<td>13</td>
<td>Mark-recapture / fish tagging</td>
</tr>
<tr>
<td>14</td>
<td>Radio &amp; ultrasonic telemetry</td>
</tr>
<tr>
<td>15</td>
<td>Bioenergetics model</td>
</tr>
<tr>
<td>16</td>
<td>TBA</td>
</tr>
</tbody>
</table>

Class policies:
Attendance at all class meetings is expected. Students are responsible for any announcements made or assignments given in class even if they are absent. Assignments are due at the beginning of class, late points will be taken off of assignments turned in late based on how many days they are past due. All assignments are to be done individually. While you may discuss concepts related to the lab assignments with other members of the class (e.g., you can help each other figure out how to perform the needed calculations), each student is to perform their own work. Any assignment where it appears more likely than not that the student has copied work from another student (current or former) will be handled in accordance with the OSU Academic Integrity Policy. This course will adhere to additional information listed in the Syllabus Attachment (including disability statement) posted online at: [http://academicaffairs.okstate.edu/content/resources-faculty-staff](http://academicaffairs.okstate.edu/content/resources-faculty-staff).