The Summer Mentorship program has been offered every year since 2008 by the American Center for Reproductive Medicine, part of the world-famous and rated as #1, Glickman Urological and Kidney Institute at the Cleveland Clinic Foundation. Now, in its 13th year, nearly 200 interns from over 25 states and more than 20 countries have experienced bench research and scientific writing under the personalized mentorship of scientists/physicians and reproductive biologists worldwide.
SECTION A

GENERAL INFORMATION

1. WHAT IS A MODULE ORGANIZER?
The module organizer is a compilation of information aimed at students to:
• Familiarize themselves with the guidelines and procedures in the American Center for Reproductive Medicine (ACRM) at Cleveland Clinic Foundation, Cleveland, OH, USA.
• Use as a quick reference guide to information usually required (communication procedures, speakers' contact details, assessment, literature resources, etc.).
• Cultivate an appropriate code of conduct in order to work responsibly, effectively and respectfully.
• Follow the sequence of presentation in the module organizer in order to have more organized and effective learning.
• Understand very explicitly the resource guide in order to comprehend/recognize the performance requirements, and ability to demonstrate competencies during the course of the module.
• Understand the criteria of assessment and the justification of grading by Course Faculty.
• Evaluate the speakers during the course as part of the 360-degree feedback.

THIS MODULE ORGANIZER MUST BE YOUR CONSTANT COMPANION TO EACH AND EVERY CLASS, LABORATORY TRAINING AND SCIENTIFIC WRITING WORKSHOP.

2. ABOUT THE MODULE
2.1 The Module Descriptor
The module descriptor gives you an overview of the main features of this module.

2.2 Module-Specific Information
Specified by the Summer Mentorship Director, Dr. Ashok Agarwal
Room: X1-37; Tel. (216) 444-9485; Email: agarwa@ccf.org

3. THE COURSE COORDINATOR
The Chief Coordinator for this module is Dr. Ralf Henkel
Room: X1-19 ACRM; WhatsApp: +27 72 976 2268; Email: rhenkel@uwc.ac.za

Associate Coordinator: Dr. Manesh Kumar Panner Selvam; Email: pannerm@ccf.org
Assistant Coordinator: Dr. Rakesh Sharma (email: sharmar@ccf.org) and Dr. Sajal Gupta (email: guptas2@ccf.org)
Course Advisor: Dr. Damayanthi Durairajanayagam; Email: damayanthi.d@gmail.com

The Course Coordinator
• Administers all aspects of the course (all modules). Associate Coordinators and Assistant Coordinator assist the Chief Coordinator (Dr. Henkel) in managing the daily running of the course.
• Handles all queries, applications for special arrangements, and concerns of students.
• Communicates all important information to students (via class announcements and/or e-mail).
• An open-door policy is usually in operation. However, from time to time it may become necessary to make appointments via the Coordinator (Room X1-19, WhatsApp: +27 72 976 2268).
• An elected class representative serves as liaison person between the class and the coordinator for communication of issues that concern the entire class.
• Collates and edits all examination papers.
• Manages and monitors all evaluation events and the results of these events.
• Monitors the quality of the course.
4. **SPEAKERS' INFORMATION AND COMMUNICATION**

- Contact details of the speakers involved in the different modules appear in the table below. Students can consult the speakers via email or in person.
- Should a student need to consult outside the posted consultation hours he/she must fill in a query form stating the request as well as contact numbers and an e-mail address. The speaker will respond via e-mail or directly on the query form.
- An elected class representative serves as a liaison between the class and ACRM for communication of issues that concern the entire class. It is advisable that concerns affecting the academic well-being of students be submitted in writing to the Course Coordinator.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Office Number</th>
<th>E-mail Address</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashok Agarwal, PhD</td>
<td>X1-37</td>
<td><a href="mailto:agarwaa@ccf.org">agarwaa@ccf.org</a></td>
<td>(216) 444-9485</td>
</tr>
<tr>
<td>Rakesh Sharma, PhD</td>
<td>X1-19</td>
<td><a href="mailto:sharmar@ccf.org">sharmar@ccf.org</a></td>
<td>(216) 444-8182</td>
</tr>
<tr>
<td>Sajal Gupta, MD</td>
<td>X1-19</td>
<td><a href="mailto:guptas2@ccf.org">guptas2@ccf.org</a></td>
<td>(216) 444-8182</td>
</tr>
<tr>
<td>Ralf Henkel, PhD</td>
<td>X1-19</td>
<td><a href="mailto:rhenkel@uwc.ac.za">rhenkel@uwc.ac.za</a></td>
<td>(216) 444-8182</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+27 72 976 2268</td>
</tr>
<tr>
<td>Manesh Kumar, PhD</td>
<td>X1-19</td>
<td><a href="mailto:pannerm@ccf.org">pannerm@ccf.org</a></td>
<td>(216) 444-8182</td>
</tr>
<tr>
<td>Nick Farber, MD</td>
<td>Q-100</td>
<td><a href="mailto:nfarber@gmail.com">nfarber@gmail.com</a></td>
<td>(412) 443-9210</td>
</tr>
<tr>
<td>Kristian Leisegang, PhD</td>
<td>X1-19</td>
<td><a href="mailto:kleisegang@uwc.ac.za">kleisegang@uwc.ac.za</a></td>
<td>+27 83 570 8486</td>
</tr>
<tr>
<td>Anthony Pimpas</td>
<td>-</td>
<td><a href="mailto:anthony@nuhsbaum.com">anthony@nuhsbaum.com</a></td>
<td>(216) 401-4079</td>
</tr>
<tr>
<td>Amy Moore, BA</td>
<td>-</td>
<td><a href="mailto:moorea@ccf.org">moorea@ccf.org</a></td>
<td>(216) 445-4898</td>
</tr>
</tbody>
</table>

**Coordinator**

Dr. Ralf Henkel: WhatsApp: +27 72 976 2268, Office: X1-19
<table>
<thead>
<tr>
<th><strong>Module Name</strong></th>
<th>Reproductive Biology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Home Department</strong></td>
<td>American Center for Reproductive Medicine (ACRM)</td>
</tr>
<tr>
<td><strong>Credit Value</strong></td>
<td>18</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>4 weeks (full-time)</td>
</tr>
<tr>
<td><strong>Module Type</strong></td>
<td>Program</td>
</tr>
</tbody>
</table>

**Main Outcomes**
The students should:
- Understand the male reproductive system and its diseases.
- Describe relevant physiological functions of the male germ cells.
- Understand the evaluation and management of male infertility.
- Understand the physiology and pathophysiology of reactive oxygen species and oxidative stress.
- Execute basic laboratory investigations.
- Understand the diagnostic value of andrological parameters.
- Understand the basic laboratory safety procedures.
- Demonstrate the ability to statistically analyze the data produced in the laboratory.
- Demonstrate the aptitude to conduct literature search, and engage in writing of scientific articles.
- Demonstrate the skill of public speaking and scientific presentations.

**Main Content**

**Pre-Requisites**
Undergraduate/graduate students with background in life science/medicine.

**Co-Requisites**
None

**Breakdown of Learning Time**
- Formal lectures: 17 x 1h = 17 h
- Practicals: 11 x 2h = 22 h
- Workshops: 12 x 1.5h = 18 h
- Scientific writing: 29 h
- Dedicated training with mentors: 21 h
- Self-study (library, internet, study): 18 h
- Scientific presentations: 22 h

Assignments & tasks (outside the daily schedule):
- about 10 hours per week: 40 h
- Tests (practicals and theory): 10 x 0.5 h = 5 h
- Total learning time: 192 h

**Work Expectations**
Students should be aware that this mentorship is an intense experience. They should be prepared to commit about 10 to 12 hours per day for classes, practicals, homework and assignments.

**Methods of Student Assessment**
Continuous assessment: 100%
## Assessment opportunities and weightage per module

<table>
<thead>
<tr>
<th>Assessment event</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Theoretical Tests (20 MCQ tests)</td>
<td>15%</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Evaluation (30%)</td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Evaluation (70%)</td>
<td></td>
</tr>
<tr>
<td>2. Scientific Writing (2 evaluations)</td>
<td>20%</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Evaluation (30%)</td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Evaluation (70%)</td>
<td></td>
</tr>
<tr>
<td>3. Statistics Evaluation</td>
<td>20%</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Evaluation (30%)</td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Evaluation (70%)</td>
<td></td>
</tr>
<tr>
<td>4. Journal Club</td>
<td>10%</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Test (25%)</td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Test (25%)</td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Test (25%)</td>
<td></td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; Test (25%)</td>
<td></td>
</tr>
<tr>
<td>5. Lab Training Theory Evaluation</td>
<td>15%</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Skill test (20%)</td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Skill test (20%)</td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Skill test (20%)</td>
<td></td>
</tr>
<tr>
<td>MCQ test with 25 questions (40%)</td>
<td></td>
</tr>
<tr>
<td>6. Presentation Skills</td>
<td>20%</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Presentation (5%)</td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Presentation (5%)</td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Presentation (10%)</td>
<td></td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; Presentation (10%)</td>
<td></td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt; Presentation (20%)</td>
<td></td>
</tr>
<tr>
<td>6&lt;sup&gt;th&lt;/sup&gt; Presentation (50%)</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL** 100%

### Notes
- **Failure to attend practicals**
  - Attendance of PRACTICALS is compulsory.
  - Failure to comply will result in an “incomplete” record for the student.

- **Handing in of reports and assignments**
  - These are handed in by due date to the Coordinator as indicated by Speaker.
  - Graded report/assignments with constructive feedback will be handed back to students within 3 academic days.

- **Penalty for late submission of assignments**
  - Valid reasons should be submitted to Coordinator if due date cannot be met.
  - Penalty: Late by 1 day – deduction of 5% of assessment score.
  - Subsequent delays – deduction of 10% of assessment score per day.

- **Failure to submit a report/assignment**
  - No mark will be allocated unless the student applies for re-evaluation based on medical or compassionate grounds.

- **Failure to be present for a continuous assessment event (e.g. tests and practical assessments)**
  - No mark will be allocated unless the student applies for re-evaluation based on medical or compassionate grounds.
  - Report within 2 days to Coordinator of having failed to write a test.
  - Failure to write a theory test will constitute an “incomplete” record for the module.
  - Failure to write one of the integrated practical assessments will constitute an “incomplete” record for the module.
CAM: Continuous Assessment Mark

5.2 Examination and Test Information – General
- The OFFICIAL MEANS OF COMMUNICATING all information regarding assessment will be via email or in person.
- DO NOT CONTACT the Coordinator for any information regarding evaluation.
- NO RESULTS will be available before 3 days (academic) after the evaluation.

5.3 Evaluation Dates (Subject to Change by Speaker/Course Coordinator)

**EVALUATION DATES**

<table>
<thead>
<tr>
<th>DATE</th>
<th>EVENT</th>
<th>CONTENT</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBD</td>
<td>MCQ Tests for 19 lectures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TBD</td>
<td>Two Scientific Writing Tests</td>
<td>Scientific Writing</td>
<td></td>
</tr>
<tr>
<td>7/9/19</td>
<td>Journal Club Presentation</td>
<td>Presentation</td>
<td>8:00AM-9:00AM</td>
</tr>
<tr>
<td>7/12/19</td>
<td>Oral Presentation</td>
<td>2 min with 2 min Q&amp;A</td>
<td>1:30PM-2:30PM</td>
</tr>
<tr>
<td>7/12/19</td>
<td>Lab Training Skill Test #1</td>
<td>Sperm Count</td>
<td>2:45PM-3:30PM</td>
</tr>
<tr>
<td>7/16/19</td>
<td>Journal Club Presentation #1</td>
<td>Sperm Count</td>
<td>8:00AM-9:00AM</td>
</tr>
<tr>
<td>7/16/19</td>
<td>Lab Training Skill Test #2</td>
<td>Sperm Vitality</td>
<td>2:45PM-4:30PM</td>
</tr>
<tr>
<td>7/18/19</td>
<td>Journal Club Presentation</td>
<td>Presentation</td>
<td>8:00AM-9:00AM</td>
</tr>
<tr>
<td>7/19/19</td>
<td>Lab Skill Test #3</td>
<td>Sperm Morphology</td>
<td>9:15AM-10:30AM</td>
</tr>
<tr>
<td>7/23/19</td>
<td>Oral Presentation</td>
<td>5 min with 5 min Q&amp;A</td>
<td>10:00AM-11:00AM</td>
</tr>
<tr>
<td>7/24/19</td>
<td>1st Stats Test</td>
<td>Statistical Calculations</td>
<td>9:00AM-12:30PM</td>
</tr>
<tr>
<td>7/26/19</td>
<td>Journal Club Presentation</td>
<td>Presentation</td>
<td>8:00AM-9:00AM</td>
</tr>
<tr>
<td>7/26/19</td>
<td>Oral Presentation</td>
<td>7 min with 5 min Q&amp;A</td>
<td>9:00AM-9:40AM</td>
</tr>
<tr>
<td>7/29/19</td>
<td>Lab Training MCQ</td>
<td>Lab Skills Knowledge</td>
<td>9:00AM-10:00AM</td>
</tr>
<tr>
<td>7/30/19</td>
<td>Journal Club Presentation</td>
<td>Presentation</td>
<td>8:00AM-9:00AM</td>
</tr>
<tr>
<td>7/30/19</td>
<td>2nd Stats Test</td>
<td>Statistical Calculations</td>
<td>9:00AM-11:30AM</td>
</tr>
<tr>
<td>7/30/19</td>
<td>Hand in of Scientific Writing Project</td>
<td>Scientific Writing</td>
<td>4:30PM-5:00PM</td>
</tr>
<tr>
<td>7/31/19</td>
<td>(Final) Student Presentation</td>
<td>10 min with 5 min Q&amp;A</td>
<td>9:00AM-12:30PM</td>
</tr>
</tbody>
</table>

6. RECOMMENDED TEXTBOOKS
There is not one single textbook that is perfectly suited for this course. However, the following textbooks are highly recommended:

6. Andrology Laboratory Guide. Cleveland Clinic
13. Andrology Laboratory Guide. Andrology Lab, Cleveland Clinic

**THESE TEXTBOOKS, HOWEVER, DO NOT REPRESENT THE COMPLETE READING LIST.**
SECTION B

CONTENT AND LEARNING OUTCOMES

1. HOW TO USE THE OUTLINE AND LEARNING OUTCOMES

The learning outcomes were designed to guide you to achieve the competencies needed upon the completion of the mentorship program at the American Center for Reproductive Medicine. These competencies include 'what you should know', 'what you should be able to perform', and 'what you should be able to demonstrate'. Before reading the outcomes, there are some general comments which you should appreciate:

- The learning outcomes should provide students with a useful aide-memoire (i.e., outline of important items) when revising the content covered in the lectures, i.e., the Course Faculty should be able to clarify to the intern as to what they should be able to do upon completing a particular topic.
- The outcomes have been prepared some months in advance and may be provisional in some instances. However, if the speaker decides to modify the outcomes for any lecture, this fact will be made absolutely clear to those students attending the lecture. These will be communicated by the Coordinator.
- Learning outcomes should be used in conjunction with any other handouts issued to students during lectures, practicals, etc.
- If a speaker does not, in the intern’s opinion, cover all the learning outcomes, as outlined for a particular lecture, then the intern should contact the speaker for more information.
2. **LECTURES: OUTLINE**

**HUMAN REPRODUCTIVE BIOLOGY**
(Any changes to the schedule will be announced before/during the lectures)

<table>
<thead>
<tr>
<th>DATE</th>
<th>LECTURE</th>
<th>TOPIC</th>
<th>SPEAKER</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/5/19</td>
<td>1</td>
<td>The Male Reproductive System</td>
<td>Kristian Leisegang, PhD</td>
</tr>
<tr>
<td>7/5/19</td>
<td>2</td>
<td>The Female Reproductive System</td>
<td>Sajal Gupta, MD</td>
</tr>
<tr>
<td>7/5/19</td>
<td>3</td>
<td>Introduction to Infertility, Endocrinology, Idiopathic Infertility and Varicocele</td>
<td>Nick Farber, MD</td>
</tr>
<tr>
<td>7/8/19</td>
<td>4</td>
<td>Laboratory Safety</td>
<td>Rakesh Sharma, PhD</td>
</tr>
<tr>
<td>7/8/19</td>
<td>5</td>
<td>Use and Care of the Microscope</td>
<td>Sajal Gupta, MD</td>
</tr>
<tr>
<td>7/8/19</td>
<td>6</td>
<td>Laboratory Evaluation of Male Infertility</td>
<td>Nick Farber, MD</td>
</tr>
<tr>
<td>7/9/19</td>
<td>7</td>
<td>Public Speaking Skills for Scientists and Clinical Investigators</td>
<td>Ralf Henkel, PhD</td>
</tr>
<tr>
<td>7/9/19</td>
<td>8</td>
<td>The Art of Making an Effective PowerPoint Presentation</td>
<td>Ralf Henkel, PhD</td>
</tr>
<tr>
<td>7/12/19</td>
<td>9</td>
<td>Research Methodology for Medical Students</td>
<td>Kristian Leisegang, PhD</td>
</tr>
<tr>
<td>7/15/19</td>
<td>10</td>
<td>Publish or Perish: Tips for Publishing in a Peer-Reviewed Scientific Journal</td>
<td>Ralf Henkel, PhD</td>
</tr>
<tr>
<td>7/16/19</td>
<td>11</td>
<td>Advances in Microsurgery Techniques</td>
<td>Nick Farber, MD</td>
</tr>
<tr>
<td>7/17/19</td>
<td>12</td>
<td>Endocrinological Causes of Male Infertility and their Management</td>
<td>Nick Farber, MD</td>
</tr>
<tr>
<td>7/18/19</td>
<td>13</td>
<td>Impact of Oxidative Stress and the Role of Oxidation Reduction-Potential in Male Infertility</td>
<td>Manesh Kumar, PhD</td>
</tr>
<tr>
<td>7/19/18</td>
<td>14</td>
<td>Fertility Preservation and Cryopreservation</td>
<td>Sajal Gupta, MD</td>
</tr>
<tr>
<td>7/22/19</td>
<td>15</td>
<td>Ethical Approach to Reproductive Medicine</td>
<td>Kristian Leisegang, PhD</td>
</tr>
<tr>
<td>7/22/19</td>
<td>16</td>
<td>Genetic Causes of Male Infertility</td>
<td>Nick Farber, MD</td>
</tr>
<tr>
<td>7/31/19</td>
<td>17</td>
<td>Proteomics of Male Infertility</td>
<td>Manesh Kumar, PhD</td>
</tr>
</tbody>
</table>

**APPLIED BIOSTATISTICS**
(Any changes to the schedule will be announced before/during the lecture/practical)

<table>
<thead>
<tr>
<th>DATE</th>
<th>LECTURE</th>
<th>TOPIC</th>
<th>SPEAKER</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/10/19</td>
<td>1</td>
<td>Applied Statistical Methods in Translational Research #1</td>
<td>Ralf Henkel, PhD</td>
</tr>
<tr>
<td>7/11/19</td>
<td>2</td>
<td>Applied Statistical Methods in Translational Research #2</td>
<td>Ralf Henkel, PhD</td>
</tr>
<tr>
<td>7/15/19</td>
<td>3</td>
<td>Applied Statistical Methods in Translational Research #3</td>
<td>Ralf Henkel, PhD</td>
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<tr>
<td>7/16/19</td>
<td>4</td>
<td>Applied Statistical Methods in Translational Research #4</td>
<td>Ralf Henkel, PhD</td>
</tr>
<tr>
<td>7/22/19</td>
<td>5</td>
<td>Applied Statistical Methods in Translational Research #5</td>
<td>Ralf Henkel, PhD</td>
</tr>
<tr>
<td>7/24/16</td>
<td>6</td>
<td>Applied Statistical Methods in Translational Research #6</td>
<td>Ralf Henkel, PhD</td>
</tr>
<tr>
<td>7/30/19</td>
<td>7</td>
<td>Applied Statistical Methods in Translational Research #7</td>
<td>Ralf Henkel, PhD</td>
</tr>
</tbody>
</table>
### 3. PRESENTATIONS: OUTLINE
(Any changes to the schedule will be announced before/during the practical)

<table>
<thead>
<tr>
<th>DATE</th>
<th>PRESENTATION</th>
<th>TOPIC</th>
<th>SPEAKER</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/8/19</td>
<td>1</td>
<td>Introduction to Electronic Search Resource</td>
<td>Loren Hackett, MLIS-AHIP</td>
</tr>
</tbody>
</table>

### 4. PRACTICALS: OUTLINE
(Any changes to the schedule will be announced before/during the practical)

<table>
<thead>
<tr>
<th>DATE</th>
<th>PRACTICAL</th>
<th>TOPIC</th>
<th>SPEAKER</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/8/19</td>
<td>1</td>
<td>Lab Safety, Pipetting Skills</td>
<td>Rakesh Sharma, PhD Sajal Gupta, MD</td>
</tr>
<tr>
<td>7/9/19</td>
<td>2</td>
<td>Demonstration of Manual Semen Analysis</td>
<td>Rakesh Sharma, PhD Sajal Gupta, MD</td>
</tr>
<tr>
<td>7/10/19</td>
<td>3</td>
<td>Manual Semen Analysis: Counting Accubeads</td>
<td>Manesh Kumar, PhD</td>
</tr>
<tr>
<td>7/10/19</td>
<td>4</td>
<td>Manual Semen Analysis: Concentration and Motility</td>
<td>Sajal Gupta, MD Manesh Kumar, PhD</td>
</tr>
<tr>
<td>7/11/19</td>
<td>5</td>
<td>Lecture and Demonstration: Leukocytospermia Test, White Blood Cells, Semen Analysis</td>
<td>Rakesh Sharma, PhD</td>
</tr>
<tr>
<td>7/11/19</td>
<td>6</td>
<td>Sperm Vitality: HOS Test, Eosin-Nigrosin Stain, Preparation of Smears</td>
<td>Sajal Gupta, MD</td>
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<td>Scoring Smears for Sperm Vitality, Preparation of Morphology Smears</td>
<td>Manesh Kumar, PhD</td>
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<td>Sperm Morphology According to WHO 5th Edition</td>
<td>Sajal Gupta, MD</td>
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<tr>
<td>7/15/19</td>
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<td>Preparation of Morphology Smears and Scoring of 5 Slides</td>
<td>Sajal Gupta, PhD</td>
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<td>7/17/19</td>
<td>10</td>
<td>Introduction to Advanced Laboratory Techniques in Andrology (TUNEL, ORP and MMP)</td>
<td>Rakesh Sharma, PhD</td>
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<tr>
<td>7/18/19</td>
<td>11</td>
<td>Sperm Preparation</td>
<td>Manesh Kumar, PhD Sajal Gupta, MD</td>
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5. **WORKSHOP OUTLINE**  
(Any changes to the schedule will be announced before/during the tutorial)

<table>
<thead>
<tr>
<th>DATE</th>
<th>Workshop(s)</th>
<th>TOPIC</th>
<th>SPEAKER</th>
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<tr>
<td>7/9/19</td>
<td>1</td>
<td>The Resources Available to Help Authors to Write</td>
<td>Amy Moore, BA</td>
</tr>
<tr>
<td>7/9/19</td>
<td>2</td>
<td>How Much do You Know about Scientific Writing?</td>
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<td>3</td>
<td>Ethical Issues in Publications – Authorship and Plagiarism</td>
<td>Amy Moore, BA</td>
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<tr>
<td>7/10/19</td>
<td>4</td>
<td>Homework Review I</td>
<td>Amy Moore, BA</td>
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<td>5</td>
<td>Homework Review II</td>
<td>Amy Moore, BA</td>
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<td>7/16/19</td>
<td>6</td>
<td>Homework Review III</td>
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<td>7/17/19</td>
<td>7</td>
<td>Writers Workshop Part I (Review of Personal Scientific Writing Project)</td>
<td>Amy Moore, BA</td>
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<td>7/19/19</td>
<td>8</td>
<td>Writers Workshop Part II (Review of Personal Scientific Writing Project)</td>
<td>Amy Moore, BA</td>
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<tr>
<td>7/23/19</td>
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<td>Writers Workshop Part III (Review of Personal Scientific Writing Project)</td>
<td>Amy Moore, BA</td>
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<tr>
<td>7/23/19</td>
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<td>Writers Workshop Part IV (Review of Personal Scientific Writing Project)</td>
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<tr>
<td>7/25/19</td>
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<td>Writers Workshop Part V (Review of Personal Scientific Writing Project)</td>
<td>Amy Moore, BA</td>
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<tr>
<td>7/26/19</td>
<td>12</td>
<td>Writers Workshop Part VI (Review of Personal Scientific Writing Project)</td>
<td>Amy Moore, BA</td>
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Lecture outline

HUMAN REPRODUCTIVE BIOLOGY

LECTURE 1: The Male Reproductive System
Content: Anatomy and function of testes, accessory glands and the male germ cell.

Learning outcomes - Students should be able to:
- Know the roles of the different male reproductive organs
- Locate the male reproductive organs
- Understand the role of the hypothalamus-pituitary-gonadal axis
- Understand the significance of the hormonal regulation of the male reproductive system
- Understand the process of spermatogenesis and spermiogenesis
- Define and identify the main features of the germ cells
- Explain cytodifferentiation (gametogenesis)

LECTURE 2: The Female Reproductive System
Content: Introduction to female reproductive system and description of the functions of the various female reproductive organs.

Learning outcomes - Students should be able to understand and get a preliminary knowledge of:
- Embryology: Development of female genital tract
- Ovarian gonadal development
- Ovarian folliculogenesis
- Ovarian steroidogenesis
- Menstrual cycle
- Clinical implications for reproductive medicine and ART

LECTURE 3: Introduction to Infertility, Endocrinology, Idiopathic Infertility and Varicocele
Content: Understanding the workup of the infertile couple. Basics of the pathology of varicocele and its impact on male fertility.

Learning outcomes - Students should be able to:
- Define infertility, idiopathic infertility and varicocele
- Understand the functions of the pampiniform plexus
- Detail infertility etiologies
- Describe the evaluation of a male patient presenting with infertility
- Understand female factor evaluation
- Comprehend the treatment of infertility based on the clinical etiology
- Describe the hypothalamic-pituitary-gonadal axis
- Understand the pathology of varicocele
- Define the impact of varicocele on the male fertility potential
- Discuss clinical symptoms of varicocele and understand various treatment options
- Describe various treatment options for male infertility
LECTURE 4: Laboratory Safety
Content: Working in an Andrology laboratory

Learning outcomes - Students should be able to:
- Understand the safety measures necessary in an Andrology laboratory
- Apply the relevant safety measures in a laboratory
- Properly use laboratory equipment including pipettes
- Safe handling of chemicals
- Legal regulations for laboratory work

LECTURE 5: Use and Care of the Microscope
Content: Instruction and demonstration on the use and care of a microscope

Learning outcomes - Students should be able to:
- Distinguish between bright-field and phase-contrast microscopy
- Proper use of a microscope
- Understand the correct use of the reticle and counting chamber
- Proper care of a microscope

LECTURE 6: Laboratory Evaluation of Male Infertility
Content: Collection and analysis of semen samples

Learning outcomes - Students should be able to:
- Understand the principle of a laboratory evaluation of male infertility
- Understand the different components of semen analysis
- Name different components of macroscopic and microscopic parameters of semen analysis
- Understand the reference values for each semen parameter

LECTURE 7: Public Speaking Skills for Scientists and Clinical Investigators
Content: Develop the soft skills for public speaking and scientific presentation

Learning outcomes - Students should be able to:
- Understand how to organize the content of a scientific presentation
- Apply the 6 common tips of effective public speaking
- Apply the do's of public speaking
- Know the don'ts of public speaking

LECTURE 8: The Art of Making an Effective PowerPoint Presentation
Content: Using PowerPoint to prepare scientific presentations.

Learning outcomes - Students should be able to:
- Use the PowerPoint program
- Apply proper background color
- Use appropriate font size and font color
- Make proper use of figures and tables
- Apply appropriate animations
LECTURE 9: Research Methodology for Medical Students
Content: Describe the various research approaches and methodologies for quantitative medical science research

Learning outcomes - Students should be able to:
• Broadly describe the steps in the research: research problem, research question, literature review, aims and objectives, research protocol design and methodology, data collection and interpretation, and research dissemination
• Understand and apply important terminology: incidence; prevalence; correlations; casualty; probability; variables
• Describe quantitative research designs: experiment and observational studies
• Compare and contrast cross-sectional, longitudinal and retrospective cohort studies
• Apply relevant quantitative research methodology to a research problem
• Describe validity and reliability in the context of research protocol development and reporting
• Consider bias and confounding variables in the research planning

LECTURE 10: Publish or Perish: Tips for Publishing in a Peer-reviewed Scientific Journal
Content: Job profile of a scientist, requirements for a manuscript to be submitted to a journal, plagiarism.

Learning outcomes - Students should be able to:
• Understand the requirements for a manuscript submission for publication
• Understand the importance of plagiarism
• Understand the peer-review process

LECTURE 11: Advances in Microsurgery Techniques
Content: Summary of microsurgical techniques for testis biopsy, vasovasostomy, varicocelectomy

Learning outcomes - Students should be able to:
• Describe the history of surgical treatment for male infertility and how microsurgery has impacted treatment options for male infertility
• Describe important surgical techniques for testis biopsy
• Describe important surgical techniques for vasovasostomy and vasoepididymostomy
• Describe important surgical techniques for varicocelectomy

LECTURE 12: Endocrinological Causes of Male Infertility and their Management
Content: Description of hypothalamic-pituitary-gonadal axis and disruptions that affect fertility. Description of pre-testicular and testicular causes of infertility, their hormonal profile and management

Learning outcomes - Students should be able to:
• Describe the hypothalamic-pituitary-gonadal axis
• Describe hormonal profile for pre-testicular causes of infertility
• Describe hormonal profile of testicular causes of infertility
• Describe medical treatment options for endocrinological causes of male infertility and their side effects
LECTURE 13: Impact of Oxidative Stress and the Role of Oxidation Reduction-Potential in Male Infertility
Content: Basics of oxidative stress.

Learning outcomes: Students should be able to:
- Understand the function of leukocytes
- Understand oxidative stress
- Understand the lipid composition of sperm plasma membrane and the process of lipid peroxidation
- Understand the importance of the fine balance between oxidation and reduction

LECTURE 14: Fertility Preservation and Cryopreservation
Content: Basics of the ART procedure and indications of fertility preservation for ART.

Learning outcomes - Students should be able to:
- Understand what fertility preservation is
- Define indications for fertility preservation
- Discuss current fertility preservation modalities
- Comprehend the new ovulation induction timing options
- Define sperm banking
- Discuss and expand indications for sperm banking in various groups of men with cancer

LECTURE 15: Ethical Approach to Reproductive Medicine
Content: Ethical considerations in reproductive medicine research

Learning outcomes - Students should be able to:
- Understand basic ethical principles in research
- Apply ethical considerations in animal research projects: experimental studies
- Apply ethical consideration in human research: observational and experimental studies
- Develop a relevant participant informed consent and participant information relevant to a research protocol

LECTURE 16: Genetic Causes of Male Infertility
Content: Summary of genetic syndromes that lead to male infertility or sub-fertility

Learning outcomes - Students should be able to:
- Describe the findings in Klinefelter's, Kallman's, and congenital absence of the vas deferens (CAVD)
- Describe the Y chromosome microdeletions and how they relate to male infertility

LECTURE 17: Proteomics of Male Infertility
Content: Importance of proteomics and sperm proteomics as a tool for deciphering the role of proteins associated with male infertility.

Learning outcomes - Students should be able to:
- Understand different proteomic techniques and validation tools
- Explain the bioinformatic approach for analyzing proteomic data
- Understand potential protein biomarkers related to male infertility conditions
APPLIED BIOSTATISTICS

LECTURE 1: Applied Statistical Methods in Translational Research #1
Content: Ethics and simple applied statistical methods for scientific research including parametric and non-parametric data, normal distribution, mean, median, comparisons, correlations, method comparison, ROC curve analysis, trend analysis

Learning outcomes - Students should be able to:
- Understand the ethical conduct of scientific research
- Conduct summary statistics
- Distinguish between parametric and non-parametric data and apply relevant subsequent tests
- Apply simple statistical analyses such as t-test or Mann-Whitney test for comparisons

LECTURE 2: Applied Statistical Methods in Translational Research #2
Content: Application of statistical methods for scientific research including parametric and non-parametric data, normal distribution, mean, median, comparisons, correlations, method comparison, ROC curve analysis, trend analysis

Learning outcomes - Students should be able to:
- Conduct summary statistics
- Distinguish between parametric and non-parametric data and apply relevant subsequent tests
- Apply simple statistical analyses such as t-test or Mann-Whitney test for comparisons

LECTURE 3: Applied Statistical Methods in Translational Research #3
Content: Application of statistical methods for scientific research including parametric and non-parametric data, normal distribution, mean, median, comparisons, correlations, method comparison, ROC curve analysis, trend analysis

Learning outcomes - Students should be able to:
- Distinguish between parametric and non-parametric data and apply relevant subsequent tests
- Apply simple statistical analyses such as t-test or Mann-Whitney test for comparisons
- Apply ROC curve analyses
- Perform trend analyses
- Understand method comparisons

LECTURE 4: Applied Statistical Methods in Translational Research #4
Content: Application of statistical methods for scientific research including parametric and non-parametric data, normal distribution, mean, median, comparisons, correlations, method comparison, ROC curve analysis, trend analysis

Learning outcomes - Students should be able to:
- Distinguish between parametric and non-parametric data and apply relevant subsequent tests
- Apply simple statistical analyses such as t-test or Mann-Whitney test for comparisons
- Apply ROC curve analyses
- Perform trend analyses
- Understand method comparisons
- Sample size calculations
LECTURE 5: Applied Statistical Methods in Translational Research #5
Content: Application of statistical methods for scientific research including parametric and non-parametric data, normal distribution, mean, median, comparisons, correlations, method comparison, ROC curve analysis, trend analysis

Learning outcomes - Students should be able to:
- Apply simple statistical analyses such as t-test or Mann-Whitney test for comparisons
- Apply ROC curve analyses
- Perform trend analyses
- Understand method comparisons
- Sample size calculations

LECTURE 6: Applied Statistical Methods in Translational Research #6
Content: Application of statistical methods for scientific research including parametric and non-parametric data, normal distribution, mean, median, comparisons, correlations, method comparison, ROC curve analysis, trend analysis

Learning outcomes - Students should be able to:
- Apply simple statistical analyses such as t-test or Mann-Whitney test for comparisons
- Apply ROC curve analyses
- Perform trend analyses
- Understand method comparisons
- Meta-analysis

LECTURE 7: Applied Statistical Methods in Translational Research #7
Content: Application of statistical methods for scientific research including parametric and non-parametric data, normal distribution, mean, median, comparisons, correlations, method comparison, ROC curve analysis, trend analysis

Learning outcomes - Students should be able to:
- Apply simple statistical analyses such as t-test or Mann-Whitney test for comparisons
- Apply ROC curve analyses
- Perform trend analyses
- Understand method comparisons
- Meta-analysis

2. PRESENTATIONS: CONTENT SUMMARIES AND LEARNING OUTCOMES

PRESENTATION 1: Introduction to Electronic Search Resource
Content: Using various search programs for scientific information

Learning outcomes - Students should be able to:
- Be able to use PubMed
- Develop specific search strategies
- Use EndNote for referencing
3. PRACTICALS: CONTENT SUMMARIES AND LEARNING OUTCOMES

PRACTICAL 1: Lab Safety, Pipetting Skills
Content: Working in an Andrology laboratory

Learning outcomes - Students should be able to:
- Understand the safety measures necessary in an Andrology laboratory
- Apply the relevant safety measures for working in a laboratory
- Properly use laboratory equipment including pipettes
- Correctly use micropipettes and serological pipettes

PRACTICAL 2: Demonstration of Manual Semen Analysis
Content: Introduction to practical semen analysis

Learning outcomes - Students should be able to:
- Perform standard manual semen analyses
- Calculate and interpret the results of sperm concentration and motility
- Understand the challenges in conducting correct semen analyses
- Explain the different types of motility patterns

PRACTICAL 3: Manual Semen Analysis: Counting Accubeads
Content: Quality control in manual semen analysis

Learning outcomes - Students should be able to:
- See practical # 2
- Understand the need for the use of Accubeads
- Perform counting procedures using Accubeads
- Perform quality control with low and high concentration of Accubeads

PRACTICAL 4: Manual Semen Analysis: Concentration and Motility
Content: Manual semen analysis

Learning outcomes - Students should be able to:
- Calculate round cells in a wet smear
- Differentiate round cells from white blood cells
- Perform the Endtz-test to quantitate leukocytes
- Count and calculate sperm concentration

PRACTICAL 5: Leukocytospermia Test, White Blood Cells, Semen Analysis
Content: Leukocyte contamination in semen samples

Learning outcomes - Students should be able to:
- Differentiate round cells from white blood cells
- Perform the Endtz-test to quantitate leukocytes
- Identify and calculate round cells in a wet smear
PRACTICAL 6: Sperm Vitality: Hypoosmotic Swelling (HOS) Test; Eosin-Nigrosin Stain, Preparation of Smears
Content: Cell vitality, semi-permeability of membranes, membrane integrity, osmolarity and osmotic swelling.

Learning outcomes – Students should be able to:
- Understand the criteria of cell vitality
- Perform the HOS test
- Correctly differentiate between the different types of tail swelling
- Know the indications for the HOS test and Eosin-Nigrosin stain
- Know the Eosin-Nigrosin stain
- Perform the Eosin-Nigrosin stain

PRACTICAL 7: Scoring Smears for Sperm Vitality; Preparation of Morphology Smears
Content: Sperm morphology assessment and its significance in evaluation of male fertility

Learning Outcomes - Students should be able to:
- Understand the significance of the vitality and morphology tests
- Understand the procedure of staining for sperm morphology
- Develop the skills to assess morphology by microscopic examination
- Develop competence in assessing sperm morphology by strict criteria
- Prepare smears for morphology stain

PRACTICAL 8: Sperm Morphology According to WHO 5th Edition
Content: Sperm morphology assessment and its significance for evaluation of male fertility

Learning Outcomes - Students should be able to:
- Understand the significance of the test
- Understand the procedure of staining for sperm morphology
- Develop the skills to assess morphology by microscopic examination
- Develop competence in scoring sperm morphology by strict criteria

PRACTICAL 9: Preparation of Morphology Smears and Score of 5 Slides
Content: Preparation and staining and scoring of sperm morphology slides.

Learning outcomes - Students should be able to:
- See practical # 7
- Practical training provided to students who will develop competency and skills for sperm morphology assessment by strict criteria.

PRACTICAL 10: Introduction to Advanced Lab Techniques in Andrology: TUNEL, ROS, TAC
Content: Flow cytometry for the determination of sperm DNA fragmentation, luminometry for ROS, and ELISA for TAC

Learning outcomes - Students should be able to:
- Understand the principle of flow cytometry, luminometry and ELISA
- Explain the different components of a bench top Accuri flow cytometer
- Prepare sperm samples for flow cytometric analysis
- Perform quality control in flow cytometry
PRACTICAL 11: Sperm Preparation
Content: Different sperm preparation techniques

Learning outcomes - Students should be able to:
• Perform sperm preparation by density gradient centrifugation
• Perform sperm preparation by swim-up
• Describe indications and protocol for sperm preparation techniques
• Describe different types of sperm preparation
• Understand the significance of sperm selection in ART
• Develop understanding of the outcomes associated with sperm preparation

4. WORKSHOPS: CONTENT SUMMARIES AND LEARNING OUTCOMES

WORKSHOP 1: The Resources Available to Help Authors to Write
Content: Students will review various writing resources that explore the fundamentals of writing for the medical literature.

Learning outcomes - Students should be able to:
• Discuss journal Instructions for Authors and why it is important to have this document before you begin to write
• Locate online writing guidelines that explain how to craft research papers based on the study type
• Identify helpful books and published articles on writing various scientific communications (research papers, posters, meeting abstracts)

WORKSHOP 2: How Much Do You Know About Scientific Writing?
Content: Students will learn more about the world of medical publishing through a series of Q & As.

Learning outcomes - Students should be able to:
• Discuss the historical context behind modern day publishing practices of medical journals, including peer review
• Define important terms (e.g., impact factor, open access) that help researchers decide where and why to publish
• Describe the different types of medical journals and know how to spot potential predatory publishers

WORKSHOP 3: Ethical Issues in Publications – Authorship and Plagiarism
Content: Having sound writing skills is only part of what makes a research writer successful. Knowing how to publish ethically is also the key.

Learning outcomes - Students should be able to:
• Discuss the definition of authorship accepted by most scientific journals worldwide
• Define the terms “ghost” and “guest” author
• Describe the definition of plagiarism, the standards that journals expect authors to adhere to, and the good publishing practices that help authors avoid unintentional plagiarism.
WORKSHOP 4: Homework Review #1
Content: Students will have read Chapters 1 and 2 from “Writing in Science & Medicine: The Investigator’s Guide to Writing for Clarity and Style” and completed the assigned writing exercises. We will spend the class reviewing the answers in group discussion.

Learning outcomes - Students should be able to:
• Discuss the main causes of obscurity in scientific writing (Chapter 1)
• Discuss writing techniques that enhance concision (Chapter 2)
• Understand why it is important to avoid jargon (Chapter 2)
• Identify commonly misused words and phrases (Chapter 2)

WORKSHOP 5: Homework Review #2
Content: Students will have read Chapters 3 and 4 from “Writing in Science & Medicine: The Investigator’s Guide to Writing for Clarity and Style” and completed the assigned writing exercises. Students will spend the class reviewing the answers in group discussion.

Learning outcomes - Students should be able to:
• Identify sentences that contain nominalizations (Chapter 3)
• Discuss the difference between passive and active voice and when to use them (Chapter 3)
• Explain why paragraphs are important, when to start a new paragraph and how to transition from one to the next (Chapter 4)

WORKSHOP 6: Homework Review #3
Content: Students will have read Chapters 5 and 6 from “Writing in Science & Medicine: The Investigator’s Guide to Writing for Clarity and Style” and completed the assigned writing exercises. Students will spend the class reviewing the answers in group discussion.

Learning outcomes - Students should be able to:
• Practice some basic grammar including proper punctuation and subject-verb agreement (Chapter 5)
• Identify at least one resource that explains the details of proper format including use of abbreviations and numbers (Chapter 5)
• Explain the basic principles of a good graph / table (Chapter 5)
• Practice revising techniques (Chapter 6)

WORKSHOP 7: Writers Workshop Part I (Review of Personal Scientific Writing Project)
Content: Students will review the rough drafts of their personal writing projects with the instructor and class in a group setting. The session will focus on practicing the writing techniques discussed in earlier sessions.

Learning outcomes:
• Students should have a completed draft of their personal writing project.

WORKSHOP 8: Writers Workshop Part II (Review of Personal Scientific Writing Project)
Content: Students will review the rough drafts of their personal writing projects with the instructor and class in a group setting. The session will focus on practicing the writing techniques discussed in earlier sessions.

Learning outcomes:
• Students should have a completed draft of their personal writing project.
WORKSHOP 9: Writers Workshop III (Review of Personal Scientific Writing Project)
Content: Students will review the rough drafts of their personal writing projects with the instructor and class in a group setting. The session will focus on practicing the writing techniques discussed in earlier sessions.

Learning outcomes:
• Students should have a completed draft of their personal writing project.

WORKSHOP 10: Writers Workshop IV (Review of Personal Scientific Writing Project)
Content: Students will review the rough drafts of their personal writing projects with the instructor and class in a group setting. The session will focus on practicing the writing techniques discussed in earlier sessions.

Learning outcomes:
• Students should have a completed draft of their personal writing project.

WORKSHOP 11: Writers Workshop V (Review of Personal Scientific Writing Project)
Content: Students will review the rough drafts of their personal writing projects with the instructor and class in a group setting. The session will focus on practicing the writing techniques discussed in earlier sessions.

Learning outcomes:
• Students should have a completed draft of their personal writing project.

WORKSHOP 12: Writers Workshop VI (Review of Personal Scientific Writing Project)
Content: Students will review the rough drafts of their personal writing projects with the instructor and class in a group setting. The session will focus on practicing the writing techniques discussed in earlier sessions.

Learning outcomes:
• Students should have a completed draft of their personal writing project.
SECTION C – APPENDIXES

APPENDIX A

General Laboratory Safety Rules

Students should familiarize themselves with the principles of the code of conduct for practicals.

Code of Conduct:

1. Attendance of Practicals and Writing Tests: The student is expected to attend practicals and to undertake the required assignments, reports and tests (practical evaluations). In the event of his/her being absent without permission, a student shall, as soon as possible, inform the speakers concerned of the reason for his/her absence.
2. Time: Students should be punctual (on time) for the laboratory training.
3. Attire and Dress Code: It is expected that students should wear the appropriate attire during practical classes, including a blue lab jacket. Keep long hair tied up neatly behind the head and do not wear dangling jewelry. Do not wear open shoes.
4. Assignments and Reports: These should be handed in on the given due date and, failing to do so may result in action taken.
5. Attendance Register: It is the student's responsibility to sign the attendance register during each practical.
6. Preparation: Students should come prepared for practical sessions by familiarizing themselves with the given topic prior to the session.
7. Stationery: The lab will provide the following stationary for lab use: permanent marker, pencil, pen and calculator.
8. Waste: Discard glass slides in the sharps bin. Discard biohazard waste in red bin, paper in blue bin and regular waste in regular trash bin.
9. Important:
   - Make sure that all slides, reagents and media are correctly and clearly labelled with regards to contents.
   - Never work with toxic or flammable materials outside a suitable fume hood with efficient extraction facilities.
   - Consider all biological specimens as potentially hazardous/infectious.
   - Wear appropriate protective equipment while handling specimens and reagents.
10. Expectations from Summer Interns:
    - Have cellphones switched off during the laboratory training.
    - Speak loudly and clearly.
    - Active participation in all labs and class discussions.
    - Receive feedback with an open mind.
    - Do not engage in gossip in the laboratory.
    - Do not put personal belongings on bench tops; these should be placed in your lockers.
    - Do not eat or drink in the laboratory.
APPENDIX B

Students’ Code of Conduct

The members of staff of the American Center for Reproductive Medicine (ACRM) undertake to conduct all academic affairs in a professional manner and all students are expected to do the same. The following is not exhaustive but should serve to guide students in this endeavor:

1. Students are to ensure that they are conversant with the guidelines and code of conduct of ACRM.
2. Students are to treat all staff and fellow students with respect, dignity and consideration.
3. Students should be punctual for all academic activities and for appointments made in the department.
4. Dishonesty (theft, plagiarism, etc.) is considered a serious offence and will be dealt with accordingly.
5. Eating, drinking and the use of cellphones are not allowed in classrooms, labs or in staff offices.
6. Disruptive behavior is considered offensive and will be dealt with according to the guidelines of ACRM.
7. Clean white coats and ID badges should to be worn throughout the hospital premises, at all time.
8. The dress code that applies to students for practicals:
   - Blue lab jackets must be worn during the laboratory training.
9. Students are expected to prepare themselves for all academic activities. Preparatory reading for classes and practicals in particular is expected. It is the responsibility of the student to acquire all class notes in a timely manner.
10. Students are expected to follow their evaluations closely. Discrepancies in marks should be reported within 2 days to the Coordinator.