World Embryology Skills and Training Syllabus 3-month Course

Week 1:

- Laboratory Safety
  - OSHA
  - Biohazard
  - LN_2 gases
- Lab Maintenance, cleaning
- Sterile Technique
- Dish prep
- Female Reproduction - Folliculogenesis
- Male Reproduction - Spermatogenesis

Week 2

- Equipment function, calibration, maintenance
- Proper microscope use
- Quality control – daily duties
- Quality Assurance/Quality Improvement – KPI and Benchmarks
- Basic pipetting and embryo handling techniques
  - Practice and competency assessment
- Embryo development and Grading

Week 3

- Air Quality
  - Filtration, air turnover
  - VOC's
  - Particle counts
- Media components
  - Energy sources
  - Protein sources
  - Buffers
- Embryo Culture techniques
  - Competency assessment
- Osmolarity
- Understanding pH
- Endocrinology
  - Protein hormones
  - Steroid hormones
- Advanced pipetting and embryo handling techniques
  - Practice and timed competency assessment

Week 4

- Bioassays
- IVF/Fertilization
- Andrology, Semen Analysis
  - Morphology
  - Count and Motility
  - Counting chambers
  - Viability
  - DNA Fragmentation
  - Practice and competency assessment
- FDA requirements
  - Eligible/Ineligible
  - Non-tested/ Infectious
  - Summary of Records
  - Use of egg donors, sperm donors and surrogates
- Retrievals/stripping

Week 5

- Embryo Transfer techniques
  - Catheter options
  - Loading options
  - Physician influence
  - Practice and Competency assessment
- Vitrification/Warming
- Cryo devices
  - Loading techniques
  - Media options
- Practice and Competency Assessment
- Cryo storage and handling
  - Labelling
  - Vapor/liquid
  - Tank types, options
- Shipping and receiving of tissue
  - Options for shipping

Week 6

- ICSI techniques
  - Practice 100 injections
  - Competency assessment
- TESE processing and search
- Genetics
  - Euploid, Aneuploid, mosaic issues
- Statistics

Week 7

- Biopsy techniques
  - Practice 100 biopsies
  - Competency assessment
- PGT-A, Whole chromosome defects
- PGT- SR, Translocations
- PGT-M, Single gene defects
- Case reviews

Week 8

- Guided and independent lab practice
- CAP, CLIA,
- State licensing requirements
- AAB, TS testing
- Policies and procedures
  - Writing/updating policies
  - Ensuring policies correspond with lab practices
- New Procedure Validation
  - Side-by-side comparisons

Week 9

- Independent lab practice
  - Variable techniques reviewed for 100% competency
- Reproductive Law
- Patient Interaction
  - Discussing results with patients
- Office/department interaction and coordination
  - Roleplay clinic scenarios
- Project Design

Week 10

- Workday Simulations (full schedule)
- Independent lab research projects
- Troubleshooting
- Current Events
- Journal Review
- Resume writing
- Interview Skills
- Employment Negotiations

Week 11

- Workday Simulations
- Research projects
- Presentations
- Peer reviews
- Final Review and Evaluation of techniques and skills
- Continuing education opportunities
- Regional Societies for mentorship