MODELING & SIMULATION GRADUATE PROGRAM

Doctoral Student Annual Review

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M&S Graduate Program Director

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M&S Program Coordinator

May 18, 2016
Agenda

• Welcome & introductions
• M&S program updates
  – Website
  – Defense brochures
  – T/TE Faculty Hires
• M&S Ph.D. program timelines
• Approaching your upcoming research milestones
  – Qualifying Examination
  – Candidacy Examination
  – Dissertation Defense
• Reminders
  – Expectations
  – Key graduate policies
  – Resources
• Questions
Annual Reviews of Doctoral Students

• Review of student progress is an important cornerstone of quality training of doctoral students

• All M&S Ph.D. students are required and have the right to receive a written annual review of their progress toward completing the requirements for their degree

• **Purpose:** To provide the student and the M&S Program faculty a clear assessment of the student’s accomplishments and progress to degree, including strengths and weaknesses

• **Format:** Program- and University-generated forms initiated by student and completed by both the student and Program Director or Dissertation Advisor
  - Program Directors will conduct all 1st year and subsequent annual reviews of doctoral student academic progress until a dissertation advisor has been identified, who then takes over reviews
  - Completed and signed form will be placed in the student’s file in the Program Office
New updates to point out:

- Need student info requested by e-mail – help us promote you!
- Updated faculty list
- Course syllabi available
- Seminars (past recordings and future announcements)
- Forms and procedures
- Brochures for all of our programs
- Contact information
- And MORE!
**New Policy for Grad Defenses**

**University of Central Florida**

**Modeling & Simulation Graduate Program**

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**Final Oral Examination of**

**LARRY D. BACA**

**B.A., NEW MEXICO STATE UNIVERSITY, 2007**

**FOR THE DEGREE OF**

**MASTER OF SCIENCE IN MODELING AND SIMULATION**

**MARCH 14, 2016**

**PARTNERSHIP II BUILDING, ROOM 301**

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**SELECTED AWARDS & HONORS**

- Golden Key International Honors Society (2013)
- Mentorship Service Medal (2014)
- Bronze Star Medal (2010)
- Purple Heart Medal (2008)

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**THESIS RESEARCH IMPACT**

Described by JOMS reviewers as "a subject that remains of great interest to DoD," this research addresses one of the most significant casualty producing threats in contemporary and future battlefields, such as Afghanistan. Research impacts include: (1) advancing military M&S of IED, counter-IED operations; (2) finding that "Stop and Destroy" procedures result in statistically significantly fewer strikes and casualties than "Drive through Procedure"; and (3) findings that training the force needs increased emphasis on fundamental "stop and destroy" tactics. As indicated below, this research is expected to be published in JOMS, which is the number one ranked, peer-reviewed journal for US defense M&S.

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**ANALYSIS OF ALTERNATIVE CONVOY ROUTE PATROL PROCEDURES FOR COUNTERING IMPROVED EXPLOSIVE DEVICES DEPLOYED DURING ASYMMETRIC WARFARE IN AFGHANISTAN-LIKE RURAL SETTINGS**

Improved Explosive Devices (IEDs) are the greatest casualty producing and costly evasion system employed by the enemy on the asymmetric battlefields of today. Despite billions of dollars spent on technological devices to counter the IED threat, IEDs are still responsible for roughly 50% of battlefield casualties. By contrast, there is limited research on what operational procedures or tactics to counter IED and resulting damage and casualties. As a subset of the larger IED threat, this modeling and simulation (M&S) research explores two alternative convoy patrol procedures to detect or otherwise reduce the impact of improvised explosive device (IED) strikes, damage, and casualties on friendly forces operating in contemporary and future battlefields such as Afghanistan. Among other findings and analyses, analysis findings that indicate "Stop and Destroy" procedures result in statistically significantly fewer strikes and casualties than "Drive through Procedure."
Review of the Ph.D. General Timeline

**Qualifying Examination**
- Begin coursework
- Complete core courses
- Pass Qualifying Exam
- Select dissertation advisor
- Submit Graduate Plan of Study
- Complete mandatory Academic Integrity/RCR training
- Network with students and faculty
- Begin to explore research problem

**Candidacy Examination**
- Continue coursework
- Form Dissertation Advisory Committee, with assistance from Advisor
- Perform independent research and formulate research question(s)/hypothesis(es)
- Prepare and submit manuscript for publication
- Prepare research proposal document, with guidance from advisor
- Pass oral defense of research proposal

**Dissertation Defense (Oral Examination)**
- Complete dissertation hours requirement
- If needed, continue coursework
- Complete dissertation research
- Participate in professional conferences
- Prepare and submit manuscripts for publication
- Prepare dissertation document, with guidance from advisor
- Announce oral defense of dissertation to UCF community, with approval of advisor
- Pass oral defense of dissertation

**Timeline**
- Year 1
- Year 2
- Year 3 and Onward
The Graduate Plan of Study

- All M&S Program students must develop a Graduate Plan of Study using courses offered across university colleges.

- **Graduate Plan of Study (GPS):** Plan of what you will undertake and timeline of completion
  - Core courses
  - Research methods course
  - Elective courses from M&S, IEMS, Psych, Comp Sci, EE, Math, Statistics, Digital Media, Education, etc.
  - Research milestones
    - Ph.D. Qualifying Exam, Candidacy Exam, and Dissertation Defense

- This is the roadmap for your degree pursuit.
The Graduate Plan of Study

• Changes to GPS must be approved by your Advisor and Program Director and then returned to the M&S Program Office for your file

• Plan of study forms available on our website and are specific to each catalog year: http://www.ist.ucf.edu/grad/Forms.html
# Cohort Summaries

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<th>Total students</th>
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<th># Filed GPS</th>
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<td>3.634</td>
<td>2</td>
</tr>
<tr>
<td>(admitted SU14, FA14, SP15)</td>
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<td>3.728</td>
<td>5</td>
</tr>
<tr>
<td>(admitted SU13, FA13, SP14)</td>
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<td>3.847</td>
<td>12</td>
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<td>(admitted SU12, FA12, SP13)</td>
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<td>3.714</td>
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<tr>
<td>(admitted SU11 or earlier)</td>
<td>31</td>
<td>3.817</td>
<td>31</td>
</tr>
</tbody>
</table>

Initial GPS **must** be submitted by the end of your 2nd term or sooner.
Status of M&S PhD Milestones

- **No QE - Not Eligible**
  - Year 1: 1
  - Year 2: 1
  - Year 3: 2

- **No QE - Eligible**
  - Year 1: 1
  - Year 2: 4
  - Year 3: 5

- **Passed QE, No Cand**
  - Year 1: 1
  - Year 2: 2
  - Year 3: 7
  - Year 4: 2
  - Year 5+: 13

- **Dissertation**
  - Year 1: 3
  - Year 2: 3
  - Year 3: 3
  - Year 5+: 18
Qualifying Examination  
Can You Do Independent Research?

- You may sit for the Qualifying Examination upon successfully passing the 4 core courses:
  - IDS 6147 Perspectives on M&S
  - DIG 5876 Quantitative Aspects of M&S
  - IDS 6148 Human Systems Integration for M&S
  - IDS 6916 Simulation Research Methods & Practicum

- The purpose is to evaluate and give you early feedback about your:
  - Ability to design sound, scientific research,
  - Writing skills, and
  - Oral presentation skills.
Qualifying Examination

Procedures

• Important documents available on our website:
  – QE Assessment Form: http://www.ist.ucf.edu/grad/Forms/qe-assessment.docx

• Tips for scheduling your QE:
  – First, confirm that each faculty member will serve on your QE review committee.
  – With the chair of your QE review committee, decide on 3 possible days/times when you would both be available.
  – Send an e-mail to the full committee to present the dates/times and ask them to reply back and identify as many as they could be available to meet.
  – Schedule a conference room
    • If your chair wants to schedule a conference room in his/her department, he/she will probably help with that.
    • If your QE is to be held at IST and your chair tells you to schedule it, please call our front desk, 407-882-1300 to request a conference room for your selected day/time. Be sure to specify the kind of equipment you need in that room (i.e., projector).
Between QE and Candidacy: IDS 7919

- When students have completed QE and coursework, and are working on the candidacy proposal, they typically enroll in IDS 7919 Doctoral Research.
  - This is a restricted registration course, and requires a consent form signed by both student and dissertation advisor.
  - Course is variable credit (1-99), and repeatable.
  - May not be converted to dissertation credits later.
Candidacy Examination
Can You Do Independent Research?

• You may sit for the Candidacy Examination upon:
  1. passing the Qualifying Examination;
  2. constituting an approved Dissertation Advisory Committee;
  3. satisfying all conditions placed as a result thereof; and
  4. completing all but six (6) credits or less of the courses prescribed in your GPS; and
  5. completing UCF Academic Integrity Training requirements.

• Purpose: Evaluates your preparation to perform independent research to undertake the research on your dissertation topic
  – A successful examinee must demonstrate intellectual independence and the ability to formulate and discuss research questions at a level appropriate for dissertation work
Candidacy Examination

Can You Do Independent Research?

- **Format:** Examination includes **ALL** of the following:

  1. **Dissertation Research Proposal:** Written exposition of an academic or scientific topic and specific research question(s)/hypothesis(es); identifies the chosen area(s) of research and offers convincing support of the need for the research investigation being proposed; should include the following components:
     - Purpose and motivation of the research investigation (often referred to as Chapter 1);
     - Literature review on the topic of the dissertation (often referred to as Chapter 2);
     - Current research to date (any relevant published work or research towards the investigation) (Chapters 3, 4, ...)
     - A detailed proposed methodology for completing the research (often referred to as Chapter N)
  2. An **oral defense** of the Dissertation Research Proposal
  3. A refereed, **published (or accepted for publication) manuscript**
Dissertation Advisory Committee

• Purpose of the Dissertation Advisory Committee is to improve the quality of the research and research training

• The Committee aims to:
  – ensure that the doctoral student’s coursework supports the Ph.D. research and provides the expected skills
  – ensure that the project is scientifically-valid and suitable for a Ph.D. project and it represents a substantial contribution to the body of knowledge
  – bring specific and diverse disciplinary knowledge or research expertise to bear on the student’s work
    • Very important, when you have an interdisciplinary topic
  – evaluate the progress and future plans of the Ph.D. research including overseeing the professional development and timely graduation of the doctoral student
Dissertation Advisory Committee

- Doctoral students must formally constitute a Dissertation Advisory Committee PRIOR to advancement to candidacy status
  - By end of Year 2

- Committee must consist of a minimum of 4 members
  - Each must have the requisite professional credentials

- Must be approved members of the UCF Graduate Faculty or UCF Graduate Faculty Scholars
  (http://www.graduatecatalog.ucf.edu/GradFaculty)

- At least 3 members must be Graduate Faculty, one of whom must serve as the chair of the committee
Tips for Forming Dissertation Committee

• Select members who can add specific, yet diverse, disciplinary knowledge and expertise to the work.

• Members must be free of (or the appearance of) conflicts of interest:
  – Could bias (or have the appearance of biasing) their judgment about the best interests of you and the scholarly merit of the dissertation.
  – Conflicts of interest include financial, personal and/or professional affiliations that could potentially or actually affect the member’s objectivity about the dissertation or the student.
Tips for Forming Dissertation Committee

• Examples of members with conflicts:
  – Committee members who stand to gain (e.g., financially, politically, etc.) from specific results of the study
  – Committee members who may be relatives, friends, employers or peers
Dissertation Defense
(Oral Examination)

Have You Made a Significant Contribution to M&S?

• **Purpose**: Share the results of the research and to demonstrate to the advisory committee and the academic community that the candidate has done work of sufficient quality to receive the doctoral degree and is able to speak to it in an open forum; It confirms the candidate’s scholarly grasp of the chosen research area and original contribution to knowledge.

• **Format**: The Dissertation Defense is a formal, oral examination of the written dissertation before the Dissertation Advisory Committee.

• **How to Succeed**: Show depth of knowledge, mastery of research techniques, and the application of both in conducting the research.
Dissertation Defense

Expectations for the big day

• Yes, you actually have to DEFEND your work. This is a good thing.

• The public community will be invited to attend
  – Be prepared to welcome questions from all public attendees
    • It is an important skill to learn how to DEFEND your work and your ideas among a critical and scholarly community in an appropriate way.
    • Ask your committee chair to help you prepare for this:
      – How to welcome the public at the beginning of your presentation
      – Guiding attendees regarding how/when questions will be welcomed
        » Throughout presentation?
        » End of presentation only?
      – How to prepare for potential questions
      – How to phrase your answers to potential questions

• Your committee will deliberate privately
  – After your public presentation and questions from the public, you and all public attendees will be asked to leave the room.
  – You will be invited back in privately to receive your committee’s feedback and final result.
Ph.D. Degree Program

Academic Integrity / Responsible Conduct of Research Training

• Mandatory Academic Integrity/RCR Training of all doctoral students (admitted as of Fall 2011) (http://www.students.graduate.ucf.edu/academic_integrity_training/)

• All training must be completed prior to a student’s advancement to candidacy

• Should be completed by the end of a student’s second major (Fall/Spring) term of enrollment
Enhancing Your Graduate Education
Other Ways to Supplement Your Graduate Education

- Graduate certificate programs (Must apply and be accepted)
  - eLearning Professional Development
  - Instructional Design for Simulations
  - Training Simulation
  - Design for Usability
  - Industrial Ergonomics and Safety
  - Systems Engineering
  - Modeling and Simulation of Technical Systems
  - M&S of Behavioral Cybersecurity
  - Emergency Management and Homeland Security
  - Project Engineering
  - Quality Assurance
  - and, others

- M.S. degree “Along the Way” (Must tell Sabrina)
M&S M.S. Degree “Along the Way”

- UCF allows students to earn an M.S. degree “along the way” to fulfilling the requirements for a doctoral degree.

- You are eligible for an M.S. degree within the doctoral degree program (i.e., an M&S M.S. as part of the M&S Ph.D. program).

- Course credits counted towards the doctoral degree as well as an M.S. degree obtained along the way are considered **double-counted credits**. These are OK.

- **Only one M.S. degree** can be awarded to an along-the-way doctoral degree.
Key Graduate Program Policies
Understand the University Policies

- The UCF Graduate Catalog is available online (www.graduatecatalog.ucf.edu)
- Must be acquainted with \textbf{ALL} university policies
- Will now highlight more relevant policies for graduate education
  - Time Limitations
    - 7-Year Rule
  - Enrollment policies
    - Full-Time vs. Part-Time Enrollment
    - Continuous Enrollment
  - Dual Degree Shared Credit Policy
    - Triple Dipping
  - Unsatisfactory grades and academic standing
Time Limitations

- Your graduate degree when granted should be current and up to date in the discipline

- **7-Year Rule**: No courses used in a GPS can be older than 7 years at the time of graduation
  - This is based on when each course is taken – not on admit term
  - For example, the course(s) that you took this Spring 2016 semester will be valid until the end of Spring 2023.

- Courses used for graduate certificates must be less than 3 years old
7-Year Rule

Exceptions

- Courses that are part of an **EARNED** Masters degree are **EXEMPT** to this policy, including those earned “along the way” in a doctoral program
Enrollment Policies

Full-Time vs. Part-Time Enrollment

• Fall and Spring terms
  – Full-Time Enrollment ≥ 9 credit hrs
  – 4.5 credit hrs ≤ Part-Time Enrollment < 9 credit hrs

• Summer terms
  – Full-Time Enrollment ≥ 6 credit hrs
  – 3 credit hrs ≤ Part-Time Enrollment < 6 credit hrs

• Two special cases:
  – M.S. thesis-option students enrolled only in Thesis hrs (XXX6971), Full-Time Enrollment ≥ 3 hrs per term, including summer terms
  – Ph.D. candidates enrolled in Dissertation hrs (XXX7980), Full-Time Enrollment ≥ 3 hrs per term, including summer terms
  – If you are receiving financial aid, please be sure to inquire about your funding agency’s definition of full-time and part-time enrollment

• IMPORTANT: Once you begin Thesis hrs or Dissertation hrs, you MUST continue to take them until you graduate
Enrollment Policies

Continuous Enrollment

• Cannot miss 3 consecutive academic terms (Fall/Spring/Summer) to remain ACTIVE student
  – Will automatically become INACTIVE, if you do
  – In the case of an extenuating circumstance, a Special Leave of Absence may be requested by a student to temporarily waive the continuous attendance requirement

• MUST RE-APPLY to program, if you become INACTIVE
  – Readmission is not guaranteed
  – Readmission decisions are individually made, based on such factors as space in the program, reasons for the break in graduate education, progress in the degree program, among others
  – MUST follow catalog year of readmission
Enrollment Policies

• Per university policy, students must be enrolled in order to:
  – take exams,
  – conduct research, or
  – use any university resources (i.e., library access, faculty and staff member’s time, etc.).
Dual Degree Shared Credit Policy

- No “Triple Dipping”
  - No credit hours may be counted for more than two degree programs
    - i.e., PhD students who come in with 30hrs from earned MS cannot use those transfer 30hrs towards new MS along the way.
  - Excludes Graduate Certificates
    - i.e., same course can be used towards PhD, MS along the way, and GC simultaneously.
**Unsatisfactory Grades**

- “C” grades (C, C+, C-), as well as D, D+, D-, F, and U grades, are all considered unsatisfactory grades.

- May apply a **maximum** total of 6 credit hours or 2 courses with “C” grades, whichever is greater, to satisfy degree program requirements.

- Exceeding 6 hrs of unsatisfactory grades may be grounds for dismissal.

- Be aware of +/- grades.
Academic Standing

• Regular
  – Students must maintain a Graduate Status GPA of 3.0 or better in order to maintain regular graduate student status, receive financial assistance, and qualify for graduation.

• Probation
  – If GPA < 3.0 (but still higher than 2.0), student will be automatically placed on academic probation

• Dismissal
  – If GPA < 2.0, student will be automatically dismissed from all active programs at UCF
  – Any student who has earned more than two unsatisfactory grades, including C+ or less, U or WF is subject to dismissal from the program
Expectations of M&S Graduate Students

• Work responsibly toward completion of the degree in a timely fashion;

• **Communicate regularly** with your faculty advisor/mentors, your Master’s/Doctoral Advisory committee and the Program Office, especially in matters relating to your progress within the degree program;

• **Take responsibility for keeping informed** of regulations and policies governing your graduate studies and to complete all required paperwork and other degree obligations in a timely fashion;

• **Exercise the highest integrity** in all aspects of your work and in your interactions with your student peers and university faculty;

• Contribute, wherever possible, to the discourse of the discipline through conference presentations, publications, and other means;

• **Seek out a range of faculty and peer mentors** that can help prepare you for a variety of professional and career roles and responsibilities; and

• **Realize your responsibilities as individual and professional representatives** of both the University and the program
Expectations of the M&S Graduate Program

- **Provide all incoming and enrolled students with a clear structure** of the expected stages of progress towards their respective degrees;
- Offer a curriculum and appropriate forms of instruction necessary to ensure timely completion of the degrees;
- Evaluate the graduate curricula to assure that students are equipped with the knowledge and skills required for a broad array of post-graduate careers;
- **Utilize program and University processes for assessing students’ satisfactory progress** towards the degrees;
- Provide specific details regarding likely career opportunities for students seeking degrees;
- **Ensure appropriate levels of academic support** for graduate students and faculty
- **Maintain the highest standards of academic quality** in all aspects of the graduate program, from admission of new students to the quality of work accepted as fulfilling the requirements of the Master’s or Ph.D. degrees; and
- Provide clear and appropriate avenues of redress wherever particular faculty or student experiences fall short of these expectations in order to ensure quality in all aspects of graduate education in the program.
Your Responsibilities As A Ph.D. Student
Stay in Contact with Us

• Must use UCF’s student e-mail system (www.knightsmail.ucf.edu)

• University and program information and notices will ONLY be sent here
<table>
<thead>
<tr>
<th>Program Director</th>
<th>Program Coordinator</th>
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<tbody>
<tr>
<td>Joseph J. LaViola, Jr., Ph.D.</td>
<td>Sabrina Gordon, M.A.</td>
</tr>
<tr>
<td>407-882-2285</td>
<td>(407) 882-1407</td>
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<td><a href="mailto:jjl@eecs.ucf.edu">jjl@eecs.ucf.edu</a></td>
<td><a href="mailto:Sabrina.Gordon@ucf.edu">Sabrina.Gordon@ucf.edu</a></td>
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Stay in Contact with Us

• Join our networks and stay informed!

• Find us on Facebook and LinkedIn

• Search for “UCF Modeling & Simulation Graduate Program”
University Facilities, Resources and Support Services

Library
library.ucf.edu

University Writing Center
407-823-2197
www.uwc.ucf.edu

International Services Center
407-823-2337
www.intl.ucf.edu

Campus Bookstore
407-823-2665 (JTWC)
407-882-0364 (B&N)
ucf.bncollege.com

Career Services
407-823-2361
www.career.ucf.edu

Health Services
407-823-2701
hs.sdes.ucf.edu

Student Disability Services
407-823-2371
sds.sdes.ucf.edu

Counseling Center
407-823-2811
counseling.sdes.ucf.edu

Recreational & Wellness Center
407-823-2408
rwc.sdes.ucf.edu

UCF Student Union
ucfsu.com
University Facilities, Resources and Support Services

Graduate Student Center
ggraduate.ucf.edu

Technology Commons
407-823-4357
servicedesk@ucf.edu

Veterans Academic Resource Center
407-823-2707
varc@ucf.edu

STOKES High Performance Computing
help-stokes@ist.ucf.edu
Thank You for Your Attention!

General Questions? Comments?