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MOVES Degree Update: Curriculum Revision Proposal

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MOVES Degree Update: Curriculum Revision Proposal

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MOVES 12th Annual Research and Education Summit
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Outline

- **Brief intro to MOVES Masters degree**
- **Pressures driving the proposed curriculum revision**
- **Salient features of the proposal**

Goals of the MOVES Degree

- **Finest education in M&S available for jobs involving...**
 - Applying simulations for military training, analysis, acquisition, etc.
 - Requirements generation for new simulation products (including assessment of existing ones)
 - Creation of new simulation products
 - Almost any need for a M&S manager or technical expert!
- **Graduates who can deal well with**
 - technological change
 - changing DoD needs
- **Deep, detailed, under the hood, hands-on knowledge of M&S technology**

Pressures Driving the Proposed Revision

- **Shorter (at least for those not needing JPME)**
- **More depth in ESRs (and at least one new one) needed**
- **And also...**
 - **Small cohorts**
 - **Optimizing course content**
 - **Leveraging our strengths as a resident program**

Properties of Proposed Revision

- **Shorter by one quarter (without JPME)**
- **Fixed matrix (essentially no electives or tracks)**
- **New Current Topics course provides a small amount of flexibility**
- **One production programming language (Java)**
- **Scripting languages for learning of programming fundamentals**
- **HCI course replaced by Human Factors in Virtual Environments**
- **All students would now take**
 - Cognitive and Behavioral Modeling
 - Stability op course (social M&S)
 - Fundamentals of Systems Engineering
- **Three practica (lab heavy courses) added**
 - Simulation Interoperability
 - Simulation Application
 - Simulation Development

The Three New Practica (Lab Heavy Courses)

- **Simulation Interoperability Practicum**
 - Lab experience with
 - HLA down to SOM and FOM level
 - Press towards small LVC federation
 - Data model inconsistencies
 - Timing issues
 - Information Assurance
- **Simulation Application Practicum**
 - Large project applying a simulation to fill a (small) capability gap
 - Platform selection
 - Scenario development
 - Execution
 - Assessment of effectiveness
- **Simulation Development Practicum**
 - Code-level modification of a product-scale simulation
 - Lab experience writing and interpreting requirement and test docs

Refresher Quarter Through Quarter 3

Refresher Summer	CSR-100 (2-2) Refresher for Beginning Programming	MA-1113 (4-0) Single Variable Calculus I	MA-2025 (4-1) Logic and Discrete Mathematics I	MA-1114 (4-0) Single Variable Calculus II with Matrix Algebra	
Quarter 1 Fall	CS-2072 (4-2) Fundamental Object Oriented Programming in JavaScript	MV-3101 (4-0) Introduction to Department of Defense Modeling and Simulation	MA-3042 (4-0) Linear Algebra	OS-3111 (4-0) Probability & Statistics for HSI and MOVES	MV-2921 (2-0) Introduction to MOVES
Quarter 2 Winter	CS-2173 (4-2) Java as a Second Language	MV-3202 (3-2) Introduction to Computer Graphics	MV-4002 (4-1) Simulation and Training	OS-3113 (4-1) Data Analysis for HSI and MOVES	MV-3922 (2-0) Introduction to Virtual Environment Technology
Quarter 3 Spring	CS-3310 (4-1) Artificial Intelligence	MV-3302 (4-1) Introduction to Discrete Event Modeling	MV-3203 (3-2) Graphical Simulation	OS-3112 (4-2) Statistics and Design of Experiments	MV-3923 (0-2) Introduction to Research in MOVES

Quarters 4 Through 7

Quarter 4 Summer	MV-4025 (3-2) Cognitive and Behavioral Modeling for Simulations	MV-4657 (3-2) Modeling and Simulation for Stability, Security, Transition, and Reconstruction (SSTR) Operations	MV-4501 (2-4) Simulation Application Practicum	OS-3311 (4-0) Probability Models for Military Applications	MV-4924 (0-2) Research Seminar in MOVES
Quarter 5 Fall	MV-3500 (3-2) Internetwork Communications and Simulation	MV-4502 (2-4) Simulation Development Practicum	MV-4510 (4-0) Current Topics in Modeling and Simulation	MV-4001 (4-1) Human Factors of Virtual Environments	MV-4924 (0-2) Research Seminar in MOVES
Quarter 6 Winter	MV-4503 (2-4) Simulation Interoperability Practicum	MN-3331 (5-1) Principles of Acquisition and Program Management	SE-3100 (3-2) Fundamentals of Systems Engineering	MV-0810 (0-8) Thesis Research	MV-4924 (0-2) Research Seminar in MOVES
Quarter 7 Spring	OA/MV-4655 (4-0) Introduction to Joint Combat Modeling	MV-4460 (4-0) Management of Modeling and Simulation Development	MV-0810 (0-8) Thesis Research	MV-0810 (0-8) Thesis Research	MV-4924 (0-2) Research Seminar in MOVES

Questions?