

NSF IGE: WindU – A Multi-University Consortium in Wind Energy Graduate Education

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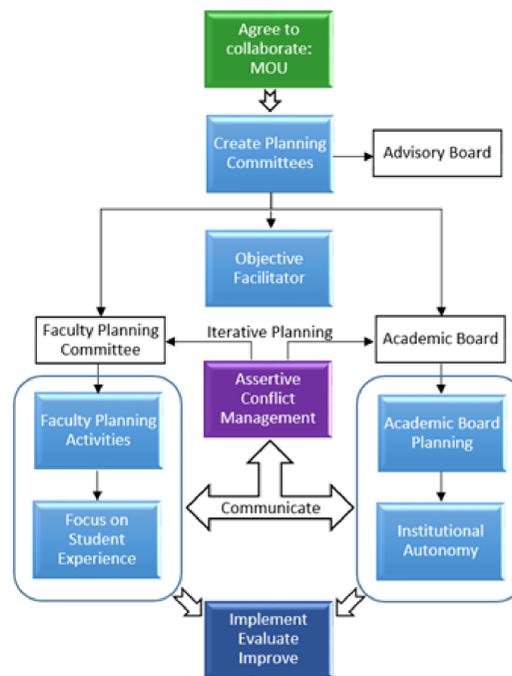
Objectives

- O1. Pilot and test a new model, the “Rapid” model, for creating an expandable, multi-university, multi-disciplinary consortium in STEM graduate education within 1-year
- O2. Increase the number and diversity of applicants and students in wind energy graduate programs
- O3. Establish linkages with international educational institutions that are engaged in wind energy education and research and include them in the consortium for sharing of technical webinars
- O4. Add to the knowledge base concerning establishment of an expandable university consortia in graduate education

The “Rapid” Model

A 10-step “Facilitational Model”

- 1) **Agreement to collaborate** – Create an MOU that firmly establishes the intention to collaborate.
- 2) **Create planning committees** –
 - i) Create “Functional Teams”: Graduate Deans, CFOs, Registrars, Online Admin, Marketing, Disability Services
 - ii) Academic Board - administrative planning, assisted by “Functional Teams”
 - iii) Faculty Planning Committee - curriculum
 - iv) External Advisory Board – industry guidance
- 3) **Objective facilitator** – Hire a facilitator that is objective with experience in setting up university consortia.
- 4) **Faculty planning activities** – Development of curriculum, e-learning strategies, requirements, etc.
- 5) **Academic Board planning** – Agree to principles of collaboration, provide administrative oversight: define governance structure and management structure of consortium; identify personnel
- 6) **Iterative planning** – Faculty planning committee and Academic Board work in parallel, but actively communicate with one another and share decisions.
- 7) **Focus on student experience** – Seamless experience that serve the needs of the students
- 8) **Institutional autonomy** – Assure institutional autonomy, respect academic freedom and differences between universities and programs
- 9) **Assertive conflict management** – Lead by the Objective Facilitator, address important issues, respecting differences
- 10) **Implement, evaluate, improve** – Plan for and conduct routine assessment and improvement



Tasks

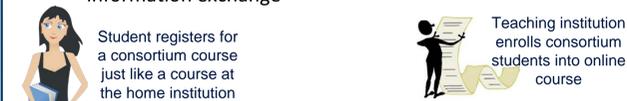
3-Year Project; funded April 15, 2019

- 1) **Task 1** – Pilot and test the “Rapid” model. (Obj. O1 & O4)
 - 2) **Task 2** – Collaboratively plan curriculum that expands the breadth and frequency of wind energy courses and thus student opportunities, and make all courses available online. (Objectives O1 & O4)
 - 3) **Task 3** – Targeted recruitment efforts to attract underrepresented minority (URM) and non-traditional students into graduate studies in wind energy. (Obj. O2)
 - 4) **Task 4** – Establish On-line Technical Seminar (Webinar) Program, in Collaboration with International Institutions with Wind Energy Expertise. (Objective O3)
- Performance Assessment / Project Evaluation –**
- Study the pilot test of the “Rapid” model
 - How was the Rapid model used for developing a consortia for STEM graduate education?
 - In what ways was the Rapid model effective for consortia development?
 - Formative and summative evaluations to assess the success of the project, as a whole, in meeting its goals.

Progress to Date

Work began July 1, 2019

- 1) **Task 1** – the “Rapid” model
 - Campus visits conducted
 - Planning committees established
 - Objective facilitators hired
 - Functional teams created
 - “Principles of Collaboration” signed
 - Registrar functional team working on platform for information exchange



Behind the Scenes actions of the WindU Consortium

- Registration**
 - Seamless process for students
 - Honor home institution course requirements
- Share student information**
 - Privacy / FERPA
 - Rely on university systems
- Tuition / revenue sharing**
 - Cost / revenue sharing agreement
 - Accounting

- CFO functional team working on Financial Agreement



- 2) **Task 2** – curriculum planning and online courses

Fall 2020: WindU Consortium Courses available at each university

Univ	Course	Course Name	FA 2020		SP 2021		FA 2021		SP 2022		FA 2022		SP 2023	
			Umass	TTU	NAU	Umass	TTU	NAU	Umass	TTU	NAU	Umass	TTU	NAU
All 3	ME 535	Wind Energy Engineering												
NAU	EE 502	Adv. Wind Power Conversion			X									X
	ME 5XX	Grid Integration of Ren. Energy										NEW		
UMass	MIE 673	Wind Turbine Design			X			X						X
TTU	WE 5301	Wind Energy: Technical 2			X			X						X
	WE 5310	Wind Energy: Managerial 1	X				X				X			X
	WE 5311	Wind Energy: Managerial 2			X			X			X			X

- 3) **Task 3** – Targeted recruitment of URM
 - Working with student chapters of URM groups
 - Convening Marketing functional team

- 4) **Task 4** – International partners and webinars
 - International partners: Chalmers, DTU, TU Munich, Oldenburg, Univ of Windsor, Univ of Calgary
 - Establishing External Advisory Board

- Performance Assessment / Project Evaluation –**
- IRB (Exempt) approved
 - Assessment instrument established
 - Collecting baseline data