

Educational Program Plan

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Science & Technology Objective(s):

- Stimulate interest in air-breathing propulsion in future engineers and scientists
- Provide continuing education for propulsion engineers

Collaborations:

- NASA Research Centers
- Gas turbine manufacturers
- Other URETI Schools
- Integration into existing curricula

Proposed Approach:

- Integrate URETI related material into new and existing classes
- Offer a “distance learning” based graduate program
- Coordinate course offerings in URETI Schools
- Provide relevant short courses at different locations.

NASA Relevance/Impact:

- Provide training to current and future propulsion engineers



Milestones/Accomplishments:

- Modify two courses for distance learning/year
- Develop two short courses/year
- Continuously integrate URETI findings in to curricula

Proposed Approach

Train new propulsion engineers:

- **Develop new propulsion related courses for undergraduate and graduate curricula**
- **Integrate URETI related material into existing courses**
- **Encourage students to participate in URETI vested research projects**
- **Coordinate course offerings between URETI Schools**

Provide continuing education opportunities for propulsion engineers

- **Offer “distance learning” based graduate programs**
- **Offer “distance learning” based certificate programs**
- **Offer short courses and workshops**

Educational Program

- **Adapt existing courses/programs**
- **Offer graduate degrees via Distance Learning**
- **Offer Graduate Certificate Programs via Distance Learning**
- **Offer short courses tailored to customer's needs**
- **Organize workshops**

Adapt Existing Courses/Programs

- **Integrate URETI findings into existing courses**
- **Develop new propulsion related undergraduate and graduate courses**
- **Share courses between sister URETI institutions**
- **Invite NASA/Air Force/industry representative as guest-lecturers**
- **Undergraduate Research**

Graduate Degrees via Distance Learning

- **Regular admission requirements by host institutions**
- **Delivery via**
 - **Video conferencing**
 - **Video tapes**
 - **Internet**
- **Residency requirements**
 - **MS, none**
 - **Ph.D., two semesters**
- **Transfer credit**
 - **MS, up to 6 hours**
 - **Ph.D., up to 30 hours**
- **Joint MS/MBA degree under preparation**

Offer Graduate Certificate Programs via Distance Learning

- **Typically consist of**
 - **3 semester courses already offered in graduate program**
 - **2 short courses that can be tailored to customer's needs**
 - **Other make-ups will be considered**
- **Semester courses can be counted towards graduate program by qualified students**
- **Similar programs currently available e.g., GT - UTC**

Short Courses

- **2-3 day courses**
- **At customer location (contract course)**
- **On GT campus**
- **Existing courses in combustion and design**
- **New courses tailored to customers' needs**

Organize Workshops

- **Internal, URETI Institutions, NASA, Air Force**
- **External, include industry and other government agencies and academia**
- **Review of URETI progress**
- **Input for future research directions**
- **General information exchange**

Undergraduate Research

- **URETI funds for undergraduate research fellowships**
- **Expand on existing fellowships provided by UTC, Boeing, alumni, universities**
- **Motivate outstanding undergraduates for graduate school by involving them in research**
- **Develop a summer internship program**