

PURPOSE OF COURSE is to teach participants how to apply principles of operations research to solve problems in the operating room and perioperative environment:

- Monitoring operational and financial performance of surgical suites and anesthesia groups (“descriptive analytics”),
- Forecasting case durations, time remaining in cases, use of staffed OR time (“predictive analytics”),
- Applying principles of operations research to make common decisions, such as staffing levels, block time planning, case scheduling and assignment, financial management, and strategic planning (“prescriptive analytics”),
- Identifying in-house expertise to aid in problem-solving and determining whether outside consultants are needed,
- Evaluating current decision-support systems.

See: Wachtel RE, Dexter F. [Curriculum providing cognitive knowledge and problem-solving skills for anesthesia systems-based practice.](#) *ACGME Journal of Graduate Medical Education* 2: 624-632, 2010

See: Wachtel RE, Dexter F. [Difficulties and challenges associated with literature searches in operating room management, complete with recommendations.](#) *Anesthesia & Analgesia* 117: 1460-1479, 2013

See: Dexter F, Van Swol LM. [Influence of data and formulas on trust in information from journal articles in an operating room management course.](#) *Anesthesia & Analgesia Case Reports* 6: 329-334, 2016

See: Ahn PH, Dexter F, Fahy BG, Van Swol LM. [Demonstrability of analytics solutions and shared knowledge of statistics and operating room management improves expected performance of small teams in correctly solving problems and making good decisions.](#) *Perioperative Care and Operating Room Management* 19: 100090, 2020

INTENDED AUDIENCE includes anesthesiologists, CRNAs, nurse managers, surgeons, hospital engineers and other analysts responsible for the organization and delivery of surgical care. Participants should have knowledge of middle/high school level algebra, Excel functions, and basic statistics (e.g., Student’s t-test). The course is designed to be especially relevant to engineers and analysts from other fields preparing to work in anesthesia/ ORs.

CASE STUDIES completed in class are an integral part of the course. Participants include both clinicians and analysts. Many of the case questions include electronic literature searching using publicly available materials. The cases help participants learn

COURSE SCHEDULE (www.FranklinDexter.net/education.htm)

DAY 1

- 8:00 AM Use of economically rational ordered priorities to make patient flow decisions
- Lecture is based on the following reference article:
Dexter F, Epstein RH, Traub RD, Xiao Y. [Making management decisions on the day of surgery based on OR efficiency and patient waiting times.](#) *Anesthesiology* 101: 1444-1453, 2004
- 11:00 AM Cases 1 and 2
- 1:00 PM Incorporating uncertainty into decision-making
- 3:00 PM Cases 3 and 4
- 5:30 PM Discussion of cases

DAY 2

- 8:00 AM Allocating OR time operationally (few months before day of patient care)
- Lecture is based on the following reference article:
McIntosh C, Dexter F, Epstein RH. [The impact of service-specific staffing case scheduling, turnovers, and first-case starts on anesthesia group and operating room productivity: tutorial using data from an Australian hospital.](#) *Anesthesia & Analgesia* 103: 1499-1516, 2006
- 10:00 AM Allocating OR time tactically based on utilization (1 yr before day of patient care)
- Lecture is based on the following reference article:
Wachtel RE, Dexter F. [Tactical increases in OR block time for capacity planning should not be based on utilization.](#) *Anesthesia & Analgesia* 106: 215-226, 2008
- 10:45 AM Cases 5 and 6
- 1:00 PM Allocating OR time tactically based on financial and strategic criteria
- Lecture is based on the following reference article:
Dexter F, Ledolter J, Wachtel RE. [Tactical decision making for selective expansion of operating room resources incorporating financial criteria & uncertainty in sub-specialties’ future workloads.](#) *Anesthesia & Analgesia* 100: 1425-1432, 2005
- 2:30 PM Cases 7 to 9
- 5:30 PM Discussion of cases

DAY 3

- 8:00 AM Economics of small reductions in OR times and turnover times
- 10:00 AM Financial impact of differences among hospitals
- Lecture is based on the following reference article:
Wachtel RE, Dexter F, Lubarsky DA. [Financial implications of a hospital’s specialization in rare physiologically complex surgical procedures.](#) *Anesthesiology* 103: 161-167, 2005
- 10:45 AM Cases 10 and 11
- 1:00 PM Empirical methods for staffing and assignments
- Lecture is based on the following reference article:
Dexter F, Epstein RH. [Optimizing second shift OR staffing.](#) *AORN Journal* 77:825-830, 2003
- 2:00 PM Physician agreements: Anesthesia institutional support and surgeon block time
- Lecture is based on the following reference article:
Dexter F, Epstein RH. [Associated roles of perioperative medical directors and anesthesia: hospital agreements for operating room management.](#) *Anesthesia & Analgesia* 121: 1469-1478, 2015
- 3:00 PM Cases 12 to 15

DAY 4

- 8:00 AM Discussion of cases from preceding day
- 9:45 AM Differentiating among hospitals and surgical practices
- Lecture is based on the following reference article:
Dexter F, Ledolter J, Hindman BJ. [Quantifying the diversity and similarity of surgical procedures among hospitals and anesthesia providers.](#) *Anesthesia & Analgesia* 122: 251-263, 2016
- 10:45 AM Cases 16 and 17
- 11:55 AM End of course
- Open discussion during lunch

The University of Iowa Carver College of Medicine designates this live activity for a maximum of 35 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity. Course completion is required for CME credit.

SEPTEMBER 26-29, 2024
Zoom, CDT, UTC-5h

FEBRUARY 20-23, 2025
Zoom, CST, UTC-6h

SEPTEMBER 2025 (TBD)
Zoom, CDT, UTC-5h

INSTRUCTOR is Franklin Dexter, MD, PhD, Professor,
University of Iowa.

**FILL IN THE PDF REGISTRATION FORM
AND E-MAIL TO:**

Franklin-Dexter@UIowa.edu

COURSE FEE: \$2000

There is a \$250 fee for cancellation up to 8 weeks
before the course starts, \$750 up to 3 weeks
before the course, and \$1500 afterwards.

Payment by bank wiring or US credit card
is available with the non-refundable bank fee.

SEND CHECK PAYABLE TO: The University of Iowa

MAIL TO: Franklin Dexter
Department of Anesthesia
Division of Management Consulting
University of Iowa
200 Hawkins Drive, 6JCP
Iowa City, IA 52242

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Internet requirement is sufficient speed for live video conferencing. Hardware requirements include Webcam, audio headset with microphone, and two monitors or devices. Software requirements are Google Chrome, desktop version of Microsoft Excel, and ability to access Zoom desktop client or web client.

Daily class recording will be available to participants to stream for 11 months after course completion.



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INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, The University of Iowa Roy J. and Lucille A. Carver College of Medicine is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

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REGISTRATION FORM

COURSE DATES: _____

First Name: _____ Last Name: _____ Degree(s): _____

Title: _____

Organization: _____

Mailing Address: _____

City: _____ State (Province) _____ Postal Code: _____

Mobile Phone during course: _____ E-mail (write clearly): _____

How did you hear about the course? _____

Please answer the following questions to assist in course planning:

Confirm requirement of computer with Google Chrome and desktop version of Microsoft Excel	YES	NO
Have you ever participated in the decision to move a surgical case from one OR to another?	YES	NO
Have you ever participated in a decision influencing physician recruitment?	YES	NO
Have you ever performed linear programming, used Monte-Carlo simulation such as @Risk or Crystal Ball, or created a quality control chart with limit lines?	YES	NO
Have you ever studied statistics more advanced than the prerequisite knowledge?	YES	NO

Material on which questions are based: Dexter F, Masursky D, Wachtel RE, Nussmeier NA. [Application of an online reference for reviewing basic statistical principles of operating room management](#). American Statistical Association: Journal of Statistics Education 18(3), 2010

The course can be hosted by a hospital or other facility for up to 8 participants. Download www.FranklinDexter.net/Contracts/ContractHourly.docx. Budget 3.5 days for the course and 0.5 day for preparation, total \$10,000. The schedule need not be 3.5 successive days (e.g., 2 successive weekends or 1 weekend and 3 evenings). [Click here](#) for that and multiple other course alternatives.